Crane
09/076956

1 of 5

FILE 'REGISTRY' ENTERED AT 15:14:22 ON 31 JUL 2001

STRUCTURE FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8
DICTIONARY FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

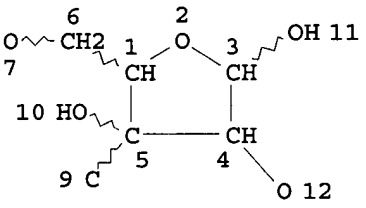
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT for details.

Strs.

Claim 104

L26 STR



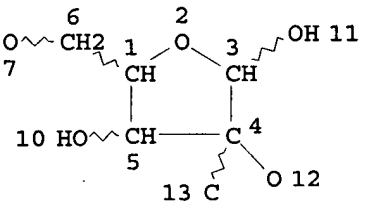
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

Claim 105

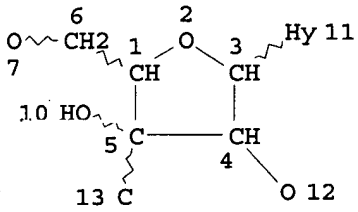
L28 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L30 STR

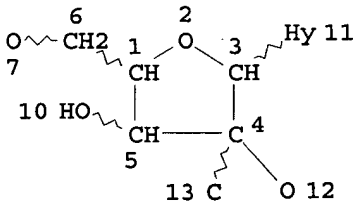


Claim 106

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M2 N AT 11

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L32 STR

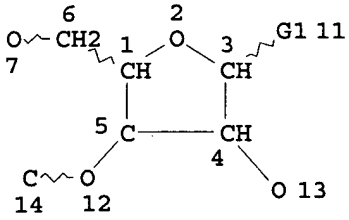


Claim 107

NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED
ECOUNT IS M2 N AT 11

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L34 STR

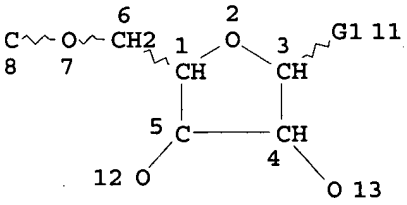


Claims 108 & 109

VAR G1=OH/HY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L36 STR



Claims 108 & 109

VAR G1=OH/HY
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L38 21250 SEA FILE=REGISTRY SSS FUL L26 OR L28 OR L30 OR L32 OR L34 OR L36

100.0% PROCESSED 55854 ITERATIONS 21250 ANSWERS
SEARCH TIME: 00.00.08

FILE 'CAPLUS' ENTERED AT 15:14:34 ON 31 JUL 2001
L39 6917 SEA ABB=ON PLU=ON L38 OR L38/D

Searcher : Shears 308-4994

L40 117684 SEA ABB=ON PLU=ON (SYNTHES? OR MANUF? OR PREP? OR PRODUC?)(5A)(?NUCLEOTIDE? OR NUCLEIC OR DNA OR DEOXYRIBONUCLEIC OR DEOXY RIBONUCLEIC)
L41 1547 SEA ABB=ON PLU=ON L39 AND L40

L45 62 S L41 AND SOLID SUPPORT

L47 25 S L45 AND SOLID PHASE

=> sel hit l47 1-25 rn
E17 THROUGH E248 ASSIGNED

L47 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:438387 CAPLUS
DOCUMENT NUMBER: 133:208110
TITLE: Synthesis of 5'-C- and 2'-O-(bromoalkyl)-substituted ribonucleoside phosphoramidites for the post-synthetic functionalization of oligonucleotides on **solid support**
AUTHOR(S): Wu, Xiaolin; Pitsch, Stefan
CORPORATE SOURCE: Laboratorium fur Organische Chemie, ETH-Zentrum, Zurich, CH-8092, Switz.
SOURCE: Helv. Chim. Acta (2000), 83(6), 1127-1144
CODEN: HCACAV; ISSN: 0018-019X
PUBLISHER: Verlag Helvetica Chimica Acta
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:208110
AB The prepn. of building blocks for the incorporation of 6'-O-(5-bromopentyl)-substituted .beta.-D-allofuranosylnucleosides and 2'-O-[(3-bromopropoxy)methyl]-substituted ribonucleosides into oligonucleotide sequences is presented. These reactive building blocks can be modified with a variety of soft nucleophiles while the (fully protected) sequence is still attached to the **solid support**. As an example of this strategy, we carried out some preliminary **solid-phase** substitution and conjugation reactions with DNA sequences contg. a 2'-O-[(3-bromopropoxy)methyl]-substituted ribonucleoside and detd. the pairing properties of duplexes obtained therefrom.
IT **81246-79-9 121058-82-0 231957-26-9 231957-27-0**
RL: RCT (Reactant)
(synthesis of and bromoalkylsubstituted ribonucleoside phosphoramidites for the postsynthetic functionalization of oligonucleotides on **solid support**)

IT **289891-43-6P 289891-44-7P 289891-45-8P**
289891-46-9P 289891-47-0P 289891-48-1P
289891-49-2P 289891-50-5P 289891-51-6P
289891-52-7P 289891-53-8P 289891-54-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(synthesis of and bromoalkylsubstituted ribonucleoside phosphoramidites for the postsynthetic functionalization of oligonucleotides on **solid support**)

REFERENCE COUNT: 25
REFERENCE(S):
(3) Corrie, J; J Chem Soc Perkin Trans 1 1992, P1015 CAPLUS
(4) Ferentz, A; J Am Chem Soc 1991, V113, P4000 CAPLUS
(6) Garner, P; J Org Chem 1988, V53, P1294 CAPLUS
(7) Hakimelahi, G; Can J Chem 1982, V60, P1106 CAPLUS
(8) Harris, C; J Am Chem Soc 1991, V113, P4328 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 2 OF 25 CAPLUS
ACCESSION NUMBER: 1999:395019 CAPLUS
DOCUMENT NUMBER: 131:116449
TITLE: Automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups
AUTHOR(S): Stutz, Alfred; Pitsch, Stefan
CORPORATE SOURCE: Organisch-Chemisches Laboratorium, Eidgenossische Technische Hochschule Zurich, Zurich, CH-8092, Switz.
SOURCE: Synlett (1999), (Spec.), 930-934
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:116449
AB A synthetic method for the N-alkyloxycarbonylation of adenine and guanine nucleosides was developed and used for the prepn. of RNA-phosphoramidites carrying photolabile sugar and nucleobase protecting groups. From these building blocks, a heptameric **oligoribonucleotide** was **prepd.** by automated **synthesis**, followed by detachment form the **solid support** and photolytic deprotection under mild conditions. The presented strategy allows a simple prepn. of 3'-O-aminoacylated RNA-sequences.
IT **81246-79-9 121058-82-0 231957-26-9**
231957-27-0
RL: RCT (Reactant)

(automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups)

IT **149622-83-3P 149622-84-4P 231957-28-1P**
231957-29-2P 231957-30-5P 231957-31-6P
231957-32-7P 231957-33-8P 231957-34-9P
231957-35-0P 231957-36-1P 231957-37-2P
231957-38-3P 231957-39-4P 231957-40-7P
231957-42-9DP, controlled pore glass bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups)

IT **231957-41-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups)

REFERENCE COUNT: 14
REFERENCE(S):
(1) Baldini, G; Biochemistry 1988, V27, P7951 CAPLUS
(2) Gasparutto, D; Nucl Acids Res 1992, V20, P5159 CAPLUS
(3) Hagen, M; J Org Chem 1988, V53, P5040 CAPLUS
(4) Hagen, M; J Org Chem 1989, V54, P3189 CAPLUS
(5) Hayakawa, Y; J Am Chem Soc 1990, V112, P1691 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1999:104552 CAPLUS
DOCUMENT NUMBER: 130:139588
TITLE: Universal **solid supports** and methods for the **preparation** of **oligodeoxyribonucleotides**
INVENTOR(S): Reddy, M. Parameswara; Michael, Maged A.; Farooqui, Firdous
PATENT ASSIGNEE(S): Beckman Instruments, Inc., USA
SOURCE: U.S., 19 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5869696	A	19990209	US 1996-636113	19960422
EP 843684	A2	19980527	EP 1997-922372	19970421
R: DE, FR, GB, IT				
JP 2000500158	T2	20000111	JP 1997-538250	19970421

PRIORITY APPLN. INFO.: US 1996-636113 19960422
WO 1997-US6648 19970421

AB Universal **solid support** **oligodeoxyribonucleotide synthesis** reagents, **oligodeoxyribonucleotide synthesis** processes, and reagents for cleaving **oligodeoxyribonucleotides** from **solid supports** are disclosed. 23-Oligonucleotide cleaving reagents include methylamine and/or ammonium hydroxide and trimethylamine.

IT **219833-72-4P 219833-73-5P 219833-79-1P**
219833-80-4P 219833-81-5P 219833-82-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(universal **solid supports** and methods for the **prepn.** of **oligodeoxyribonucleotides**)

IT **219833-84-8P 219833-86-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(universal **solid supports** and methods for the **prepn.** of **oligodeoxyribonucleotides**)

REFERENCE COUNT: 11
REFERENCE(S):
(1) Beaucage, S; Tetrahedron 1992, V48(12), P2223 CAPLUS
(2) Cook; US 3271455 1966 CAPLUS
(3) Crea, R; Nucleic Acids Research 1980, V8(10) CAPLUS
(4) de Bear, J; A Universal Glass Support For Oligonucleotide Synthesis 1987, V6(5), P821 CAPLUS
(5) Duranleau; US 5189221 1993 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:680290 CAPLUS
DOCUMENT NUMBER: 130:38628
TITLE: A novel **solid support** for synthesis of 2',3'-cyclic phosphate terminated oligonucleotides
AUTHOR(S): Vyle, Joseph S.; Williams, Nicholas H.; Grasby, Jane A.
CORPORATE SOURCE: Department of Chemistry, Krebs Institute, University of Sheffield, Sheffield, S3 7HF, UK
SOURCE: Tetrahedron Lett. (1998), 39(43), 7975-7978
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Michaelis-Arbusov chem. was used to prep. O,S-dialkyl 3'-O-nucleosidyl phosphoro-thiolate triesters in soln. and attached to CPG. The support-bound nucleoside was utilized in the

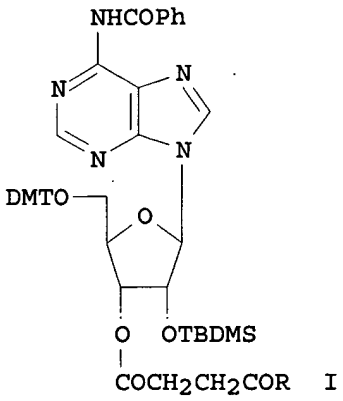
synthesis of a penta-**ribonucleotide** that was fully deprotected on the support. Subsequent treatment with a buffered soln. of iodine cleaved the RNA from the CPG with concomitant formation of a terminal 2',3'-cyclic phosphate.

IT **216692-02-3**
RL: RCT (Reactant)
(novel **solid support** for synthesis of 2',3'-cyclic phosphate terminated oligonucleotides)

IT **160107-20-0P 216692-07-8P 216692-11-4DP**, CPG-bound
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(novel **solid support** for synthesis of 2',3'-cyclic phosphate terminated oligonucleotides)

REFERENCE COUNT: 21
REFERENCE(S):
(1) Bischoff, R; Anal Biochem 1987, V164, P336 CAPLUS
(2) Brown, D; J Chem Soc 1952, P2708 CAPLUS
(3) Butzow, J; Biochemistry 1971, V10, P2019 CAPLUS
(4) Esteban, J; J Biol Chem 1997, V272, P13629 CAPLUS
(5) George, A; Inorg Chem 1985, V24, P3627 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:536516 CAPLUS
DOCUMENT NUMBER: 129:276182
TITLE: Tetraethylene glycol-derived spacer for **oligonucleotide synthesis**
AUTHOR(S): Gunzenhauser, Sigmund; Biala, Ewa; Strazewski, Peter
CORPORATE SOURCE: Inst. Org. Chem., Univ. Basel, Basel, CH-4056, Switz.
SOURCE: Tetrahedron Lett. (1998), 39(35), 6277-6280
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB 3,6,9-Trioxaundecane-1,11-diisocyanate, OCNCH2CH2OCH2CH2OCH2CH2OCH2CH2NCO (I) was synthesized from tetraethylene glycol in 5 steps and 48% overall yield. Spacer I was monofunctionalized with the fully protected adenosyl-3'-O-succinate deriv. (II; R = OH; DMT = 4,4'-dimethoxytrityl, TBDMS = tert-butyldimethylsilyl) to obtain II [R = NHCH2CH2O(CH2CH2O)2CH2CH2NCO] and linked to aminomethyl polystyrene (50% crosslinked with divinylbenzene) affording a **solid support** II [R = NHCH2CH2O(CH2CH2O)2CH2CH2NHCONHCH2-poly styrene resin] suitable for **oligoribonucleotide synthesis** (loading: .apprx.20 .mu.mol/g). The HPLC anal. of a crude **oligoribonucleotide synthesis** and the isolated yield of purified oligomer show that this spacer compares well to hexamethylene diamine.

IT **118362-03-1 121058-86-4 131316-88-6 149559-87-5**
RL: RCT (Reactant)
(prepn. of tetraethylene glycol-derived spacer for **solid phase synthesis** of **oligonucleotide**)

IT **213926-26-2P 213926-27-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of tetraethylene glycol-derived spacer for **solid phase synthesis** of **oligonucleotide**)

IT **213926-26-2DP**, reaction product with aminomethylated polystyrene resin **213926-27-3DP**, reaction product with aminomethylated polystyrene resin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(**solid support**; prepn. of tetraethylene glycol-derived spacer for **solid phase synthesis** of **oligonucleotide**)

L47 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:417528 CAPLUS
DOCUMENT NUMBER: 129:189598
TITLE: **Synthesis** of phenazine-tethered and xylofuranosyl **oligonucleotide** conjugates: the thermal stability and fluorescence properties of their duplexes (DNA-DNA & DNA-RNA) & triplexes
AUTHOR(S): Zamaratski, E.; Chattopadhyaya, J.
CORPORATE SOURCE: Dep. Bioorg. Chem., Biomedical Cent., Univ. Uppsala., U, Swed.
SOURCE: Tetrahedron (1998), 54(28), 8183-8206
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The synthesis of phenazine (Pzn) tethered ara-U and xylo-incorporated oligonucleotides, and their properties as DNA-DNA, DNA-RNA duplexes and as triplexes are reported. 2'-O-Pzn-tethered ara-U amidite and Pzn-linked amidite block as well as CPG **solid supports** functionalized with 2'-O-Pzn-tethered ara-U and 3'-O-Pzn-tethered xylo-U succinates were used in the **solid-phase DNA synthesis** to **prep**. modified 9mers (for **DNA -DNA** & **DNA**-RNA duplex studies) and 18mers (for the DNA triplex studies). Thermal melting expts. with the resulting duplexes and triplexes showed that all oligo-DNAs, except for the middle-modified ones, have enhanced affinity to the DNA and RNA targets as well as for the DNA duplex target. Pzn-tethered ara-U block was more efficient at the 3'-terminal of oligonucleotides than at the 5'-end in the duplexes and esp. in triplexes, where it provided a dramatic improvement in the stability (.DELTA.Tm = 16.1.degree.C). Employment of Pzn-tethered ara-U block at the 3'-end together with the Pzn-tethered dT block at the 5'-end of the oligo-DNAs provided the best duplex and triplex stabilization to give a highest .DELTA.Tm of 14.4.degree.C for DNA-DNA duplexes, .delta.Tm of 11.7.degree.C for DNA-RNA duplexes and .DELTA.Tm of 19.6.degree.C for triplexes. All DNA-DNA and DNA-RNA duplexes as well as DNA triplexes, formed by the oligos modified with 2'-O-Pzn-tethered ara-U blocks showed greater stability than those formed by the oligos modified with xylo-analogs with the same length of the linker arms. For both ara- and xylo-configurations, the best DNA-DNA & DNA-RNA duplex stabilization was provided by the short Et linkers, and increasing the length of the linker led to considerable destabilization of the duplexes. In case of triplexes, longer linker arms were required to obtain better stabilization. Hexyl linker provided the highest triplex stabilization for the oligonucleotides modified with Pzn-tethered ara-U block (.DELTA.Tm =

16.5.degree.C) and Bu linker was found to be most suitable for the oligo-DNAs modified with Pzn-tethered xylo-U block (.DELTA.Tm = 12.3.degree.C). Fluorescence studies showed that Pzn behaves as a weak exterior binder upon DNA-DNA or DNA-RNA duplex or DNA triplex formation which accounts for moderate changes in the fluorescent properties of the Pzn moiety (.DELTA.F for DNA-DNA and DNA-RNA duplexes = .+-.0.2, .DELTA.F for triplexes = 1.4-2.5). Employment of Pzn at both 3' and 5' ends of the oligonucleotides provided the greatest duplex and triplex stabilization so far, and led to more effective interaction between the Pzn moieties and the double and triple helixes (.DELTA.F for DNA-DNA and DNA-RNA duplexes = 4, .DELTA.F for triplexes = 5).

IT **211441-80-4P 211441-81-5P 211441-83-7P**
211441-84-8P 211441-85-9P 211441-87-1P
211441-88-2P 211441-91-7P 211441-95-1P
211441-96-2P 211441-98-4P 211441-99-5P
211442-00-1P 211442-06-7P 211442-08-9P
211442-10-3P 211442-11-4P 211442-13-6P
211442-15-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(**synthesis** of phenazine-tethered and xylofuranosyl **oligonucleotide** conjugates and thermal stability and fluorescence properties of their duplexes and triplexes)

L47 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:160358 CAPLUS
DOCUMENT NUMBER: 128:230626
TITLE: Divergent **solid-phase synthesis** of **nucleic** acid dendrimers
AUTHOR(S): Hudson, Robert H. E.; Robidoux, Sebastien; Damha, Masad J.
CORPORATE SOURCE: Department of Chemistry, Erindale College, U. of Toronto, Mississauga, ON, L5L 1C6, Can.
SOURCE: Tetrahedron Lett. (1998), 39(11), 1299-1302
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A divergent or "starburst" approach for the construction of branched nucleic acids mimicking naturally occurring lariat and forked introns is described. Chain assembly takes place on the surface of controlled-pore glass **solid support** in the unconventional 5' to 3' direction. The branch junctures were introduced by use of N8-benzoyl-2',3'-O-bis(dimethoxytrityl)adenosine-5'-O-(N,N-diisopropyl)-.beta.-cyanoethylphosphoramidite. Various dendrimers were prepd. in comparable or better yields relative to the convergent approach.

IT **204505-63-5**
RL: RCT (Reactant)
(divergent **solid-phase synthesis** of **nucleic** acid dendrimers)

L47 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1998:79979 CAPLUS
DOCUMENT NUMBER: 128:128236
TITLE: **Nucleotides**. Part 55. **Synthesis** and application of a novel linker for **solid-phase synthesis** of modified **oligonucleotides**
AUTHOR(S): Waldvogel, Siegfried R.; Pfleiderer, Wolfgang
CORPORATE SOURCE: Fakultaet Chemie, Universitaet Konstanz, Konstanz, D-78434, Germany
SOURCE: Helv. Chim. Acta (1998), 81(1), 46-58
CODEN: HCACAV; ISSN: 0018-019X
PUBLISHER: Verlag Helvetica Chimica Acta AG
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Various bifunctional amino-protecting groups such as the phthaloyl, succinyl, and glutaryl group were investigated as potential linker mols. for attachment to **solid-support** materials. Pentane-1,3,5-tricarboxylic acid 1,3-anhydride offered the best properties and reacted with the amino groups of differently sugar-protected adenosine, cytidine, and guanosine derivs. to the corresponding 2-(2-carboxyethyl)glutaryl derivs. The utility of the new linker-type mols. is demonstrated by the **solid-support** synthesis of the potentially antivirally active 3'-deoxyadenylyl-(2'-5')-2'-adenylic acid 2'-{2-[(adenin-9-yl)methoxy]ethyl} ester starting from the 2'-end with N6,N6-[2-(2-carboxyethyl)gutaryl]-9-{[2-(4,4'-dimethoxytrityloxy)ethoxy]methyl}adenine.
IT **156046-12-7 156046-21-8**
RL: RCT (Reactant)
(prepn. and application of linker for **solid-phase oligonucleotide synthesis**)
IT **201855-39-2P 201855-40-5P 201855-42-7P 201855-43-8P 201855-45-0P 201855-46-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and application of linker for **solid-phase oligonucleotide synthesis**)
IT **201855-44-9P 201855-47-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and application of linker for **solid-phase oligonucleotide synthesis**)

L47 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1997:592440 CAPLUS
DOCUMENT NUMBER: 127:262966
TITLE: The (2-cyano-1-phenyl)ethoxycarbonyl (cpeoc) group - a new protecting group for **oligoribonucleotide synthesis**
AUTHOR(S): Munch, Ursula; Pfleiderer, Wolfgang
CORPORATE SOURCE: Fakultat Chemie, Univ. Konstanz, Konstanz, D-78434, Germany
SOURCE: Nucleosides Nucleotides (1997), 16(5 & 6), 801-808
CODEN: NUNUD5; ISSN: 0732-8311
PUBLISHER: Dekker
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The (2-cyano-1-phenyl)ethoxycarbonyl (cpeoc) group was developed as a new base-labile protecting group for the 5'-OH function in **solid-phase synthesis** of **oligoribonucleotide** by the phosphoramidite approach using the 4-methoxytetrahydropyran-4-yl (mthp) group for 2'-protection. The syntheses of the monomeric building blocks and the first oligoribonucleotides obtained by this approach are described.
IT **195881-21-1P 195881-23-3P 195881-25-5P 195881-27-7P**
RL: BYP (Byproduct); PREP (Preparation)
(**solid-phase synthesis** of **oligoribonucleotides** using cyanophenylethoxycarbonyl as protecting group)
IT **195881-20-0P 195881-22-2P 195881-24-4P 195881-26-6P 195881-28-8P 195881-29-9P 195881-30-2DP**, (long-chain-alkyl)methylamine controlled-pore glass **solid support 195881-30-2P 195881-31-3DP**, (long-chain-alkyl)methylamine controlled-pore glass **solid support 195881-31-3P 195881-32-4DP**, (long-chain-alkyl)methylamine controlled-pore glass **solid support 195881-32-4P 195881-33-5DP**, (long-chain-alkyl)methylamine controlled-pore glass **solid support 195881-33-5P 195881-45-9P 195881-48-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(**solid-phase synthesis** of **oligoribonucleotides** using cyanophenylethoxycarbonyl as protecting group)

L47 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1996:622309 CAPLUS
DOCUMENT NUMBER: 126:8480
TITLE: **Solid support**

	preparation of all-Rp-oligo(**ribonucleotide** phosphorothioate)s
AUTHOR(S):	Almer, Helena; Stawinski, Jacek; Stroemberg, Roger
CORPORATE SOURCE:	Dep. Org. Chem., Stockholm Univ., Stockholm, S-10691, Swed.
SOURCE:	Nucleic Acids Res. (1996), 24(19), 3811-3820 CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER:	Oxford University Press
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB The first method for **solid support** prepn. of all-Rp-oligo(ribonucleoside phosphorothioate)s is presented as well as attempts to increase the stereoselectivity of the key step in this approach. The synthetic strategy consists of (i) a **solid support** prepn. procedure, using 5'-O-(4-methoxytriphenylmethyl)-2'-O-tert-butyldimethylsilyl-ribonucleoside 3'-H-phosphonates, that due to stereoselectivity in the condensation step, gives oligomers with mostly Sp-H-phosphonate diesters (72-89%) under std. conditions, (ii) stereospecific sulfurization S8 in pyridine to produce oligo(ribonucleoside phosphorothionate)s enriched with internucleosidic linkages of Rp configuration, (iii) treatment of the deprotected oligodeoxyribonucleotides with the enzyme Nuclease P1 from Penicillum citrinum, that specifically catalyzes cleavage of Dp-phosphorothioate diester linkages, which leaves a mixt. of oligomers having all internucleosidic linkages as Rp-phosphorothioates, and finally (i.v.) isolation and HPLC purifn. of the full length all-Rp oligomer. Mixed sequences contg. the four common nucleosidic residues up to the chain length of a heptamer were synthesized. Change of N-4-protection on the cytidine building block from propionyl to N-methylpyrrolidin-2-ylidene gave slightly improved diastereoselectivity in H-phosphonate diester formation. Increased selectivity up to 99+% was obtained with the guanosine building block when the amt. of pyridine in the coupling step was reduced.

IT **183593-22-8P**
RL: BYP (Byproduct); PREP (Preparation)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(**ribonucleotide** phosphorothioate)s)

IT **50408-20-3 51600-12-5 135780-94-8 183593-02-4 183593-04-6 183593-08-0**
RL: RCT (Reactant)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(**ribonucleotide** phosphorothioate)s)

IT **183592-98-5P 183593-00-2P 183593-06-8P 183593-10-4P 183593-21-7P 183593-23-9P 183593-24-0P 183593-25-1P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(**ribonucleotide** phosphorothioate)s)

IT **135760-21-3P 135819-26-0P 183593-14-8P**
183593-15-9P 183593-16-0P 183593-17-1P
183593-18-2P 183593-19-3P 183593-20-6P
183813-64-1P 183813-65-2P 183813-66-3P
183813-67-4P 183813-68-5P 183813-69-6P
183813-70-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(**ribonucleotide** phosphorothioate)s)

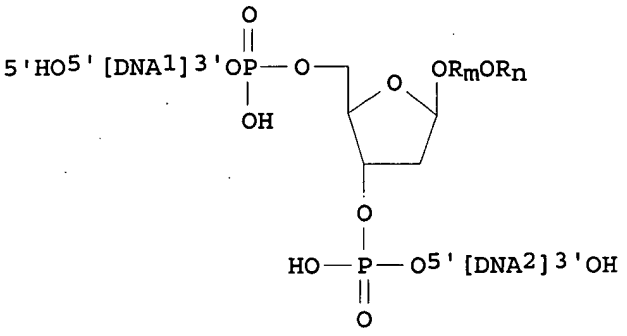
L47 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:812740 CAPLUS
DOCUMENT NUMBER: 123:257264
TITLE: **Preparation** of **oligonucleotides** with selectively cleavable and/or abasic sites.
INVENTOR(S): Urdea, Michael S.; Horn, Thomas
PATENT ASSIGNEE(S): Chiron Corp., USA
SOURCE: U.S., 17 pp. Cont.-in-part of U.S. Ser. No. 559,961.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 6
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5367066	A	19941122	US 1991-736445	19910724
US 4775619	A	19881004	US 1984-661508	19841016
US 5118605	A	19920602	US 1988-251152	19880929
US 5258506	A	19931102	US 1989-398711	19890825
US 5430136	A	19950704	US 1990-559961	19900727
CA 2088257	AA	19920128	CA 1991-2088257	19910725
WO 9202528	A1	19920220	WO 1991-US5287	19910725
JP 05508928	T2	19931209	JP 1991-514119	19910725
JP 2552048	B2	19961106		
PL 170146	B1	19961031	PL 1991-298545	19910725

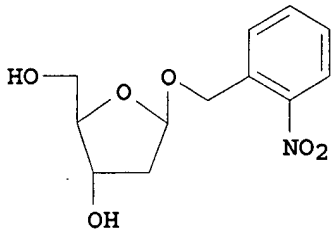
PRIORITY APPLN. INFO.:
US 1984-661508 19841016
US 1988-251152 19880929
US 1989-398711 19890825
US 1990-559961 19900727
US 1991-736445 19910724
WO 1991-US5287 19910725

OTHER SOURCE(S): MARPAT 123:257264

GI



I



II

AB Title compds. [I; DNA1 = a first segment of DNA; DNA2 = a second segment of DNA; Rm = C1-16 alkylene, (CH2CH2O)z; z = 1-16; and Rn = MeCOCH2CH2CO, FMOC, 4-O2NC6H4CH2CH2O2C, PhSCH2CH2O2C, PhSO2CH2CH2O2C, MeOCH2CH2OCH2], and related compds., useful, e.g., in biochem. assays and phosphorylation reactions, were prepd. Such polynucleotides are useful in **solid phase** hybridizations because they permit the release of a label from the **solid support** after the hybridization reaction. Thus, deoxyribose was refluxed with 2-nitrobenzyl alc. and dichloroacetic acid in MeCN to give 52% deriv. (II). This was protected with DMT-Cl, converted to a phosphoramidite, and coupled under std. conditions to give 3'-T20-[1'-O-(2-nitrobenzyl)-2'-deoxyribose]-T10. The latter was irradiated at 350 nm and then heated in aq. NH3 at 60.degree. to give T10 and T20 oligomers.

IT **141719-89-3P**
RL: BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**prepn.** of **oligonucleotides** with selectably cleavable and/or abasic sites)

IT **78462-56-3P 81246-79-9P 141719-90-6P**

141719-91-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** of **oligonucleotides** with selectably cleavable and/or abasic sites)

L47 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:603741 CAPLUS
DOCUMENT NUMBER: 119:203741
TITLE: Use of the 1-(2-fluorophenyl)-4-methoxypiperidin-4-yl (Fpmp) protecting group in the **solid-phase synthesis** of oligo- and poly-**ribonucleotides**
AUTHOR(S): Rao, M. Vaman; Reese, Colin B.; Schehlmann, Volker; Yu, Pak Sang
CORPORATE SOURCE: Dep. Chem., King's Coll. London, Strand/London, WC2R 2LS, UK
SOURCE: J. Chem. Soc., Perkin Trans. 1 (1993), (1), 43-55
CODEN: JCPRB4; ISSN: 0300-922X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An approach of the **solid-phase** synthesis of oligo- and RNA is described. The synthetic strategy involves the use of building blocks in which two acid-labile groups, 1-(2-fluorophenyl)-4-methoxypiperidin-4-yl (Fpmp) and 9-phenylxanthen-9-yl (Px), resp., are used to protect the 2'- and 5'-hydroxy functions of ribonucleoside building blocks. The adenine, cytosine and guanine base residues are protected with pivaloyl, benzoyl and phenylacetyl groups, resp. 2-Cyanoethyl N,N-diisopropylphosphoramidites are used in the coupling steps, and 5-(3-nitrophenyl)-1H-tetrazole is used as the activating agent. Following the chain-assembly process, 2'-protected oligo- and poly-ribonucleotides are released from the functionalized controlled-pore glass **solid support**; the latter stabilized RNA (RNA) sequences are purified before they are fully unblocked by treatment with 0.01 mol dm-3 HCl (pH 2) at room temp. for 20 h.
IT **147490-83-3DP**, polymer supported **147490-83-3P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, in synthesis of RNA)

L47 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:517709 CAPLUS
DOCUMENT NUMBER: 119:117709
TITLE: An acid-labile linker for **solid-phase oligoribonucleotide synthesis** using Fmoc group for 5'-hydroxyl protection

AUTHOR(S): Palom, Yolanda; Alazzouzi, ElMostafa; Gordillo, Fernando; Grandas, Anna; Pedroso, Enrique
CORPORATE SOURCE: Dep. Quim. Org., Univ. Barcelona, Barcelona, 08028, Spain
SOURCE: Tetrahedron Lett. (1993), 34(13), 2195-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An alkoxybenzylidene acetal linker formed with the 2'- and 3'-OH of the 3'-terminal ribonucleotide and attached to the **solid support** through an amide bond fulfills the necessary requirements of base stability and acid lability to be used in **solid phase oligoribonucleotide synthesis** in combination with Fmoc [(9-fluorenylmethoxy)carbonyl] and Mthp (4-methoxytetrahydropyran-4-yl) groups for 5'-OH and 2'-OH protection resp. Thus, uridine deriv. I was prepd. and bound to aminoalkylated controlled-pore glass. Me protected phosphates do not give rise to N-methylation of pyrimidine bases (T or U) when piperidine, instead of DBU, is used to remove the Fmoc groups as in nucleotide II (B = T, U).

IT **149018-86-0**
RL: RCT (Reactant)
(acetalation by, of (formylphenoxy)acetic acid)

IT **123755-41-9 123755-42-0**
RL: RCT (Reactant)
(phosphitylation of, by chloro(diisopropylamino)methoxyphosphine)

IT **149018-85-9P 149018-88-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and automated synthesis with)

L47 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1992:84093 CAPLUS
DOCUMENT NUMBER: 116:84093
TITLE: **Solid phase synthesis** of **oligoribonucleotides** by the phosphoramidite approach using 2'-O-1-(2-chloroethoxy)ethyl protection
AUTHOR(S): Sakatsume, Osamu; Yamaguchi, Tohru; Ishikawa, Masahide; Hirao, Ichiro; Miura, Kinichiro; Takaku, Hiroshi

CORPORATE SOURCE: Dep. Ind. Chem., Chiba Inst. Technol., Chiba, 275, Japan
SOURCE: Tetrahedron (1991), 47(41), 8717-28
CODEN: TETRAB; ISSN: 0040-4020
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The new protecting group, 1-(2-chloroethoxy)ethyl (Cee), has been employed for the protection of the 2'-OH groups of ribonucleoside residues in the **synthesis** of **oligoribonucleotides** by the phosphoramidite approach on a **solid support**, using the acid-labile 5'-O-dimethoxytrityl (DMTr) group. The Cee group is completely stable under the acidic conditions required to remove the 5'-terminal protecting groups in **oligonucleotide synthesis** on a **solid support**, and yet is easily removable under mild condition of acidic hydrolysis (pH 2.0) for the final unblocking step. The Cee-protected ribonucleoside 3'-phosphoramidite units were evaluated in the synthesis of homopolymers of cytidine, the box 9R and 9R' sequences of Tetrahymena rRNA, and a leader sequence of phage Q.beta.-A protein mRNA. Procedures for the deprotection and purifn. of the synthetic oligoribonucleotides are also described.

IT **138494-33-4DP**, controlled-pore glass-bound
138494-34-5DP, controlled-pore glass-bound
138494-35-6DP, controlled-pore glass-bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** and **oligonucleotide synthesis** with)

IT **138494-33-4P 138494-34-5P 138494-35-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with alkylaminated controlled-pore glass)

IT **81246-83-5P 138078-31-6P 138603-19-7P**
138603-20-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, with phosphoramidochloridite)

IT **138494-31-2P 138494-32-3P 138603-21-1P**
138603-22-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L47 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:583767 CAPLUS
DOCUMENT NUMBER: 115:183767
TITLE: **Solid-phase synthesis** of **oligoribonucleotides** using 5'-9-fluorenylmethoxycarbonyl and 2'-1-(isopropoxyl)ethyl protection

AUTHOR(S): Ogawa, Takashi; Hosaka, Hideo; Makita, Tatsusi; Takaku, Hiroshi
CORPORATE SOURCE: Dep. Ind. Chem., Chiba Inst. Technol., Chiba, 275, Japan
SOURCE: Chem. Lett. (1991), (7), 1169-72
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 1-(isopropoxy)ethyl group has been employed for the protection of the 2'-hydroxy groups of ribonucleoside residues in the **synthesis** of **oligoribonucleotides** by the phosphoramidite approach on a **solid support**, using a base-labile 5'-9-fluorenylmethoxycarbonyl group.

IT **136289-03-7P 136289-04-8P 136289-05-9P 136289-06-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and phosphitylation of)

IT **136289-07-1P 136289-08-2P 136289-09-3P 136289-10-6DP**, solid supported **136292-88-1P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** of, in **synthesis** of **oligoribonucleotides**)

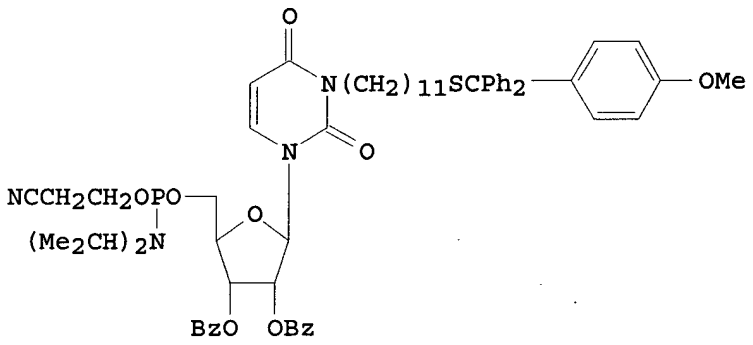
L47 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1991:122940 CAPLUS
DOCUMENT NUMBER: 114:122940
TITLE: Modified **oligonucleotides**. IV. **Solid-phase synthesis** and preliminary evaluation of phosphorothioate RNA as potential antisense agents
AUTHOR(S): Morvan, Francois; Rayner, Bernard; Imbach, Jean Louis
CORPORATE SOURCE: Lab. Chim. Bio-Org., Univ. Montpellier II, Montpellier, 34095, Fr.
SOURCE: Tetrahedron Lett. (1990), 31(49), 7149-52
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English

AB For the first time a phosphorothioate **oligoribonucleotide**, namely PS-C14, has been **synthesized** on **solid support** by making use of 3H-1,2-benzodithiol-3-one 1,1-dioxide as the sulfurizing agent. This modified oligomer is more resistant to enzymic degrdn. than rC14 and binds to complementary RNA strands.

IT **81256-87-3D**, controlled pore glass-supported **118684-40-5**
RL: RCT (Reactant)
(nucleotide coupling of, in presence of benzodithiolone dioxide

as sulfurizing agent)

L47 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:631900 CAPLUS
DOCUMENT NUMBER: 113:231900
TITLE: A new combined purification/phosphorylation procedure for oligodeoxynucleotides
AUTHOR(S): Bannwarth, Willi; Wippler, Juergen
CORPORATE SOURCE: Pharma Div., F. Hoffmann-La Roche A.-G., Basel, CH-4002, Switz.
SOURCE: Helv. Chim. Acta (1990), 73(4), 1139-47
CODEN: HCACAV; ISSN: 0018-019X
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I

AB Phosphoramidite I was prepd. which allows the introduction of a purifn. handle into synthetic **oligodeoxynucleotides** during their **synthesis** on a **solid support** and its usefulness proved in a simple purifn. procedure for oligodeoxynucleotides. With this anchor mol., it is possible to attach the desired DNA fragment, after deprotection, to a **solid support** by a covalent bond. All failure sequences can be removed by washing steps due to their lack of the anchor mol. The removal of the pure DNA fragment by an oxidn./elimination process directly yields the 5'-phosphorylated DNA fragment. The method is amenable to current methods of **solid-phase DNA synthesis** and, in principle, does not depend on chain length or base compn. of the oligonucleotides.

IT **130518-73-9P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and conversion of, to phosphoramidite)

IT **130518-74-0P 130530-61-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** and **oligonucleotide synthesis** with)

IT **130518-76-2P 130518-98-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT **78462-56-3**
RL: RCT (Reactant)
(reaction of, with methoxytritylthioundecyl tosylate)

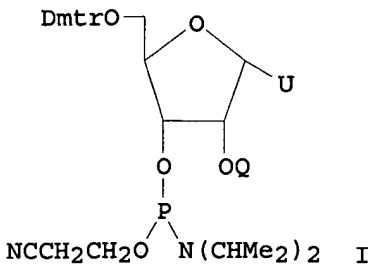
IT **130518-75-1**
RL: RCT (Reactant)
(reaction of, with uridine deriv.)

L47 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:572652 CAPLUS
DOCUMENT NUMBER: 113:172652
TITLE: **Solid-phase** phosphoramidite **synthesis** of .alpha.-**oligoribonucleotides**
INVENTOR(S): Rayner, Bernard; Imbach, Jean Louis
PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique, Fr.
SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 360626	A1	19900328	EP 1989-401681	19890615
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
FR 2636633	A1	19900323	FR 1988-12264	19880920
WO 9003381	A1	19900405	WO 1989-FR303	19890615
W: JP, US				
JP 03504015	T2	19910905	JP 1989-507012	19890615

PRIORITY APPLN. INFO.: FR 1988-12264 19880920
WO 1989-FR303 19890615

GI



I

AB The title synthesis is carried out by condensation of .alpha.-nucleosides substituted in the 3' position with phosphoramidite groups P[N(R1)2]2OR2, [R1 = (substituted) alkyl and R2 = Me, CH2CH2CN] and with the 2'-OH group protected by 1-(2-chloro-4-methylphenyl)-4-methoxy-4-piperidyl (Q) or SiMe2CMe3 in the presence of an activating agent. Ribosyluracil I [U = uracil residue, Dmtr = dimethoxytrityl] (II) [obtained via reaction of [Me2CHN]2POCH2CH2CN with the appropriate protected ribosyluracil] on a **solid support** was detritylated and the product condensed with II in the presence of 5-(4-nitrophenyl)tetrazole, the product detritylated, the cycle repeated 6 more times, and the solid-supported product deprotected and cleaved from the support to give .alpha.-[(Up)7U]. .alpha.-[(Up)5U] and .alpha.-[(Up)11U] were prepd. similarly. These products were as stable as the corresponding .beta. anomers to nucleases and in nucleic acid hybridization expts.

IT **59279-50-4P 129666-64-4P 129666-65-5P**
129666-66-6P 129666-67-7P 129666-68-8P
129666-72-4P 129666-73-5P 129666-74-6P
129666-75-7P 129666-76-8P 129666-79-1P
129666-80-4P 129666-81-5P 129666-82-6P
129681-71-6P 129707-10-4P 129707-11-5P
129707-13-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction of, in **prepn.** of .alpha.-**oligonucleotides**)

IT **129666-60-0P 129666-61-1P 129681-69-2P**
129681-70-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, as monomer in **prepn.** of .alpha.-**oligonucleotides**)

L47 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:455161 CAPLUS
DOCUMENT NUMBER: 109:55161
TITLE: **Solid phase** synthesis of the

3'-terminal nonadecaribonucleoside octadecaphosphate sequence of yeast alanine transfer ribonucleic acid

AUTHOR(S): Rao, T. Sudhakar; Reese, Colin B.; Serafinowska, Halina T.; Takaku, Hiroshi; Zappia, Giovanni

CORPORATE SOURCE: Dep. Chem., King's Coll., London, WC2R 2LS, UK

SOURCE: Tetrahedron Lett. (1987), 28(41), 4897-900
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:55161

AB The rapid synthesis of the 3'-terminal decaribonucleoside nonaphosphate and nonadecaribonucleoside octadecaphosphate sequences of yeast tRNAAla by the phosphoramidite approach on controlled pore glass is described. The synthetic products were found to be identical to the authentic **oligoribonucleotides**, **prepd**. by the phosphotriester approach in soln.

IT **115436-45-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and attachment of, to functionalized controlled-pore glass)

IT **115436-45-8DP**, controlled-pore glass-supported
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn**. and automated **synthesis** with, of **oligoribonucleotides**)

L47 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1988:438154 CAPLUS

DOCUMENT NUMBER: 109:38154

TITLE: **Synthesis** of **DNA** fragments linked to a **solid support**

AUTHOR(S): Pochet, Sylvie; Huynh Dinh, Tam; Igolen, Jean

CORPORATE SOURCE: Dep. Biochim. Genet. Mol., Inst. Pasteur, Paris, 75724/15, Fr.

SOURCE: Tetrahedron (1987), 43(15), 3481-90
CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English

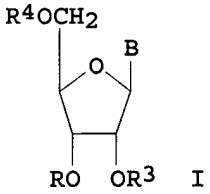
AB Two simple procedures for the **prepn**. of **DNA** fragments covalently and specifically linked to a **solid support** are presented. The first method consists of the prepn. of a nucleoside primer which serves as the initiative site for conventional synthesis of oligomers in either 3' or 5' direction. The second procedure involves the direct attachment of independently synthesized and purified oligomers to a functionalized **solid support**. The accessibility of such supported oligodeoxynucleotides to enzymes is checked with restriction endonucleases.

IT **99335-99-6 115244-17-2**
RL: RCT (Reactant)
(coupling of, to **solid supports**)
IT **99335-99-6DP**, polymer-bound **115244-17-2DP**, polymer-bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** and **polynucleotide synthesis** with)

L47 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:554695 CAPLUS
DOCUMENT NUMBER: 107:154695
TITLE: A process for the **preparation** of **oligoribonucleotides** by the **solid phase** method
INVENTOR(S): Otsuka, Eiko
PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62096497	A2	19870502	JP 1985-235802	19851022

GI



I

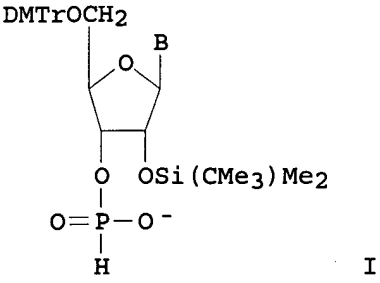
AB The title process comprises selective cleavage of arylamide groups by isoamyl nitrite in **solid support**-bound oligonucleotide- or nucleotidephosphoramides I; R = (R2O)P(O)NHR1; R1 = Ph, p-MeOC6H4; R2 = o-ClC6H4, p-ClC6H4, NCCH2CH2; R3 = tetrahydrofuranyl, tetrahydropyranyl, methoxypyranyl, Me3CMe2Si; R4 = org. residue bound to **solid support**; B = uracil, 4-N-acylcytosine, 2-N-acylguanine, or 6-N-acyladenine

residue] and activation of the resulting C-3' terminal phosphodiesters followed by condensation with a nucleotide or a nucleoside resulting in extension of the oligoribonucleotide chain at the C-3' terminus. A mixt. of 5 .mu.mol resin-bound nucleotide I [R = (R2O)P(O)NHR1, R1 = p-MeOC6H4, R2 = o-ClC6H4, R3 = tetrahydrofuranyl, R4 = aminomethylpolystyrene-bound COCH2CH2CO, B = N-benzoylcytidine residue] (50 mg resin) and 0.5 mL isoamyl nitrite in 5 mL pyridine-AcOH (1:1) was shaken for 1 h at 30.degree. and the resin was removed by filtration and washed successively by 0.5 M Et3N.cntdot.AcOH in DMF, Cl2CH2, Et2O, THF, and pyridine and finally dried by distn. of pyridine. The resin thus treated was used for prepg. CAGGUAAGU by successive coupling with the corresponding nucleotide and nucleoside derivs.

IT **102386-02-7P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification of, with pentachlorophenol)

IT **102386-01-6DP**, aminomethylpolystyrene-bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** and **solid phase-oligonucleotide** coupling with)

L47 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:407503 CAPLUS
DOCUMENT NUMBER: 107:7503
TITLE: Nucleoside H-phosphonates. IV. Automated **solid phase synthesis** of **oligoribonucleotides** by the hydrogenphosphonate approach
AUTHOR(S): Garegg, Per J.; Lindh, Ingvar; Regberg, Tor; Stawinski, Jacek; Stroemberg, Roger; Henrichson, Christina
CORPORATE SOURCE: Dep. Org. Chem., Univ. Stockholm, Stockholm, 106 91, Swed.
SOURCE: Tetrahedron Lett. (1986), 27(34), 4055-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 107:7503
GI



I

AB A rapid and efficient **synthesis** of **oligoribonucleotides** on **solid support** is described via coupling ribonucleside 3'-H-phosphonates I (B = uracilyl, N4-benzoylcytosinyl, N2-isobutyrylguaninyl, N6-benzoyladeninyl; DMTr = dimethoxytrityl) to the polymer bound nucleoside in the presence of pivaloyl chloride as coupling agent.

IT **81246-80-2 81256-87-3 81265-93-2 81279-39-2**
RL: RCT (Reactant)
(phosphorylation of, in automated **solid-phase synthesis** of **oligoribonucleotides** by hydrogenphosphonate approach)

IT **108586-55-6P 108586-57-8P 108586-59-0P 108586-61-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, intermediate in automated **solid-phase synthesis** of **oligoribonucleotides**)

L47 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:161100 CAPLUS
DOCUMENT NUMBER: 98:161100
TITLE: Selective 2'-benzoylation of the cis 2',3'-diols of protected ribonucleosides. New **solid phase synthesis** of RNA and **DNA**-RNA mixtures
AUTHOR(S): Kempe, Tomas; Chow, Flora; Sundquist, Wesley I.; Nardi, Thomas J.; Paulson, Brad; Peterson, Susan M.
CORPORATE SOURCE: Mol. Genet., Inc., Minnetonka, MN, 55343, USA
SOURCE: Nucleic Acids Res. (1982), 10(21), 6695-714
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English
AB 5'-O-(Dimethoxytrityl)-2'-O-(benzoyl or 3,4,5-trimethoxybenzoyl)-

base protected ribonucleosides were prepd. by selective benzoylation of the 2'-hydroxyl group. The isomerization of the 2'-benzoates to the 3'-benzoates was studied. The protected ribonucleosides were converted to either methylphosphochloridites or methylphosphoamidites and used to **synthesize oligoribonucleotides** on silica gel **solid support**. The synthetic RNA were deprotected and isolated using conditions that minimize internucleotide cleavage. The use of 2'-benzoates as protecting groups for ribonucleosides made it possible to easily **prep**. and isolate mixts. of **DNA** and RNA.

IT **81246-76-6 81246-79-9 81246-82-4**
81246-83-5 81352-26-3
RL: RCT (Reactant)
(benzoylation of)

IT **85315-93-1P 85315-94-2P 85315-95-3P**
85315-96-4P 85315-97-5P 85316-04-7P
85322-66-3P 85322-67-4P 85342-71-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and deprotection of)

IT **85315-85-1P 85315-86-2P 85315-87-3P**
85315-88-4P 85315-89-5P 85315-90-8P
85315-91-9P 85315-92-0P 85316-03-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L47 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1982:598508 CAPLUS
DOCUMENT NUMBER: 97:198508
TITLE: **Solid-phase** synthesis of the RNA fragment: rAAGAAGAAGAAGA
AUTHOR(S): Van der Marel, G. A.; Wille, G.; Van Boom, J. H.
CORPORATE SOURCE: Gorlaeus Lab., Leiden, 2300 RA, Neth.
SOURCE: Recl.: J. R. Neth. Chem. Soc. (1982), 101(7-8), 241-6
CODEN: RJRSDK
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The **synthesis** of the **tridecaribonucleotide** AAGAAGAAGAAGA on a polystyrene **solid support** via a phosphotriester approach is described. The assemblage of the oligomer was performed by 4 repeated coupling reaction of the partially protected trimer AAGp(3') with an immobilized dimer in the presence of the activating agent (2,4,6-triisopropylbenzenesulfonyl)-3-nitro-1,2,4-triazole. Purifn. of the RNA fragment was easily achieved by Sephadex G50 column chromatog.

IT **83472-76-8P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and coupling of, to polystyrene **solid support**, in **synthesis** of **tridecaribonucleotide**)

IT **69895-37-0P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coupling of, with uridine phosphate deriv.)

IT **83472-80-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coupling reaction of, with adenosine phosphate deriv.)

IT **83480-41-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and removal of tribromoethyl group and coupling to polystyrene support, in **synthesis** of **tridecaribonucleotide**)

IT **83472-77-9DP**, polymer bound **83480-42-6DP**, polymer bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(**prepn.** of, intermediate in **synthesis** of **tridecaribonucleotide**)

IT **63358-76-9**
RL: RCT (Reactant)
(removal of trichloroethyl group from)

L47 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1981:121840 CAPLUS
DOCUMENT NUMBER: 94:121840
TITLE: **Synthesis** of **oligonucleotides** on cellulose by a phosphotriester method
AUTHOR(S): Crea, Roberto; Horn, Thomas
CORPORATE SOURCE: Dep. Organ. Chem., Genentech, Inc., San Francisco, CA, 94080, USA
SOURCE: Nucleic Acids Res. (1980), 8(10), 2331-48
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The synthesis of oligothymidylic acids, (dT)m (m = 4, 7, 10, 13, 16, 19, 22, and 25), was carried out using a **solid phase** approach in combination with the modified phosphotriester methodol. developed in soln. Cellulose was used as the **solid support** after its functionalization with a specially featured dinucleoside diphosphate, 5'-O-p-chlorophenylphosphophenyl ester. The fully protected trideoxynucleoside triphosphate contg. only thymidine was repeatedly used to elongate the oligonucleotide chain in the 3'-5' direction. Individual coupling yields ranged from 45% to 75%. The total time needed to prep. (dT)25 was 4 days. Similarly, the **tridecanucleotide** d(AGAAGGTACTTTT) was **synthesized**

in good yield. This approach can be used for a fast and economic way to **synthesize oligodeoxynucleotides**.

IT **76726-22-2P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and hydrolysis of)

IT **76726-27-7P 76726-28-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

FILE 'REGISTRY' ENTERED AT 15:24:08 ON 31 JUL 2001
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

STRUCTURE FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8
DICTIONARY FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT for details.

L48 232 SEA FILE=REGISTRY ABB=ON PLU=ON (81246-79-9/BI OR
115244-17-2/BI OR 115436-45-8/BI OR 121058-82-0/BI OR
138494-33-4/BI OR 138494-34-5/BI OR 138494-35-6/BI OR
147490-83-3/BI OR 195881-30-2/BI OR 195881-31-3/BI OR
195881-32-4/BI OR 195881-33-5/BI OR 213926-26-2/BI OR
213926-27-3/BI OR 231957-26-9/BI OR 231957-27-0/BI OR
78462-56-3/BI OR 81246-83-5/BI OR 81256-87-3/BI OR
99335-99-6/BI OR 102386-01-6/BI OR 102386-02-7/BI OR
108586-55-6/BI OR 108586-57-8/BI OR 108586-59-0/BI OR
108586-61-4/BI OR 118362-03-1/BI OR 118684-40-5/BI OR
121058-86-4/BI OR 123755-41-9/BI OR 123755-42-0/BI OR
129666-60-0/BI OR 129666-61-1/BI OR 129666-64-4/BI OR
129666-65-5/BI OR 129666-66-6/BI OR 129666-67-7/BI OR
129666-68-8/BI OR 129666-72-4/BI OR 129666-73-5/BI OR
129666-74-6/BI OR 129666-75-7/BI OR 129666-76-8/BI OR
129666-79-1/BI OR 129666-80-4/BI OR 129666-81-5/BI OR
129666-82-6/BI OR 129681-69-2/BI OR 129681-70-5/BI OR
129681-71-6/BI OR 129707-10-4/BI OR 129707-11-5/BI OR
129707-13-7/BI OR 130518-73-9/BI OR 130518-74-0/BI OR
130518-75-1/BI OR 130518-76-2/BI OR 130518-98-8/BI OR
130530-61-9/BI OR 131316-88-6/BI OR 135760-21-3/BI OR
135780-94-8/BI OR 135819-26-0/BI OR 136289-03-7/BI OR
136289-04-8/BI OR 136289-05-9/BI OR 136289-06-0/BI OR

136289-07-1/BI OR 136289-08-2/BI OR 136289-09-3/BI OR
136289-10-6/BI OR 136292-88-1/BI OR 138078-31-6/BI OR
138494-31-2/BI OR 138494-32-3/BI OR 138603-19-7/BI OR
138603-20-0/BI OR 138603-21-1/BI OR 138603-22-2/BI OR
141719-89-3/BI OR 141719-90-6/BI OR 141719-91-7/BI OR
149018-85-9/BI OR 149018-86-0/BI OR 149018-88-2/BI OR
149559-87-5/BI OR 149622-83-3/BI OR 149622-84-4/BI OR
156046-12-7/BI OR 156046-21-8/BI OR 160107-20-0/BI OR
183592-98-5/BI OR 183593-00-2/BI OR 183593-02-4/BI OR
183593-04-6/BI OR 183593-06-8/BI OR 183593-08-0/BI OR
183593-10-4/BI OR 183593-14-8/BI OR 183593-1

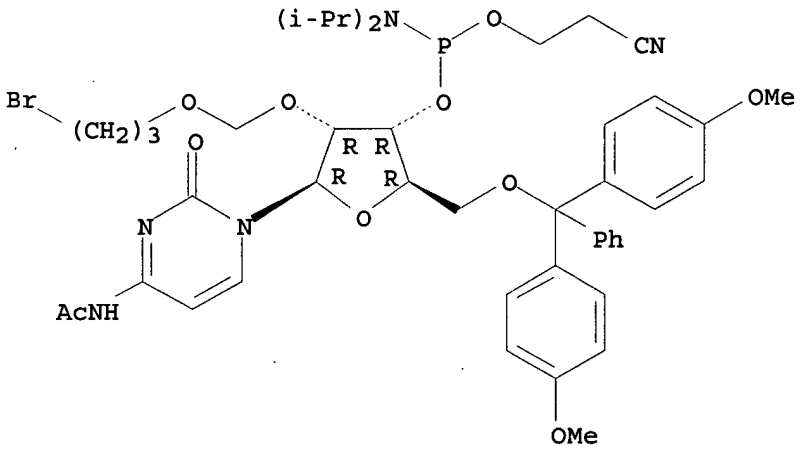
Random RNSI Strs displayed

=> d

1,13,30,38,41,43,50,62,63,71,87,94,112-114,116,118,119,122,123,126,130,135-137,145-150,155,158,161,177,179,181-185,189-193,195,197,210,212,215-219,224,225,228,232 ide can; fil caold

L48 ANSWER 1 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **289891-54-9** REGISTRY
CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(3-bromopropoxy)methyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C45 H57 Br N5 O10 P
SR CA
LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.

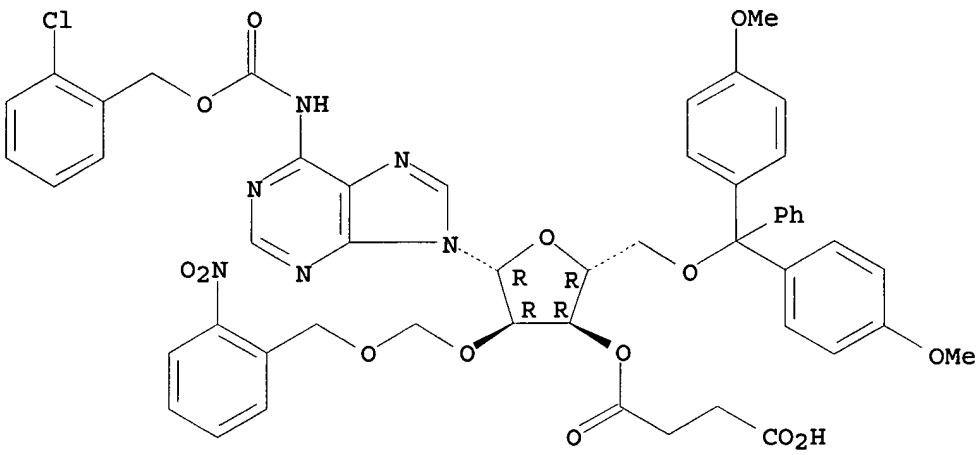


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 133:208110

L48 ANSWER 13 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **231957-42-9** REGISTRY
CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-[[(2-chlorophenyl)methoxy]carbonyl]-2'-O-[[(2-nitrophenyl)methoxy]methyl]-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C51 H47 Cl N6 O14
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

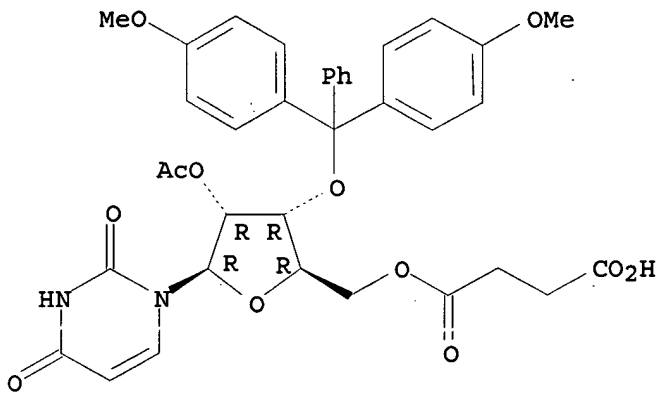


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:116449

L48 ANSWER 30 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **219833-86-0** REGISTRY
CN Uridine, 3'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 2'-acetate 5'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C36 H36 N2 O12
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



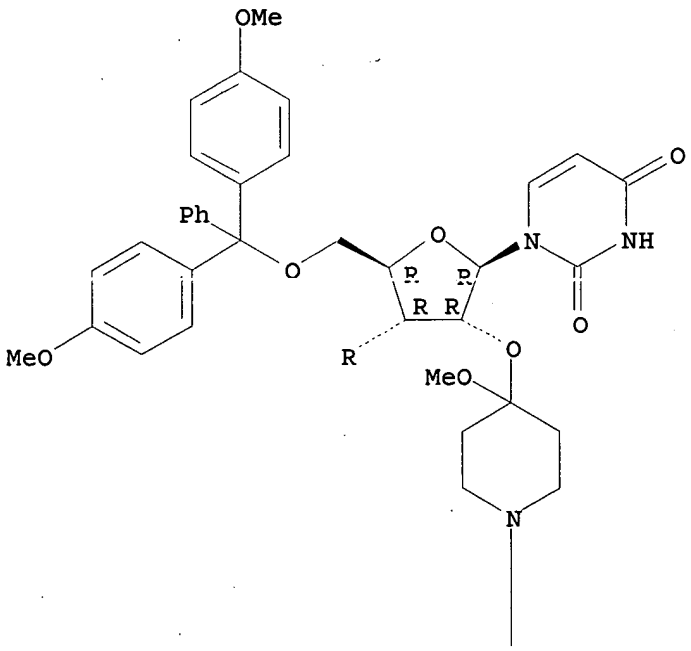
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:139588

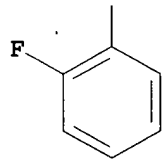
L48 ANSWER 38 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **216692-11-4** REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-fluorophenyl)-4-methoxy-4-piperidinyl]-, 3'-[S-(3-amino-3-oxopropyl) O-(2-cyanoethyl) phosphorothioate] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C48 H53 F N5 O12 P S
SR CA
LC STN Files: CA, CAPLUS

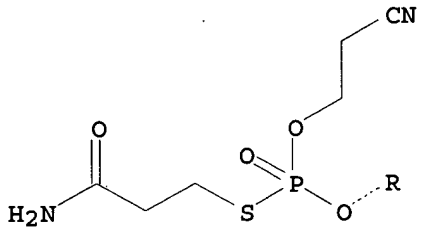
Absolute stereochemistry.

PAGE 1-A



PAGE 2-A





1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

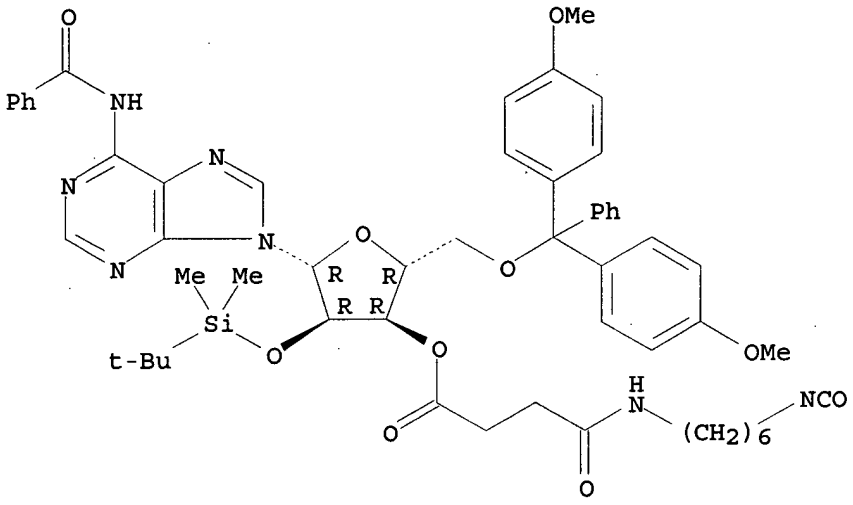
Searcher : Shears 308-4994

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:38628

L48 ANSWER 41 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **213926-27-3** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[4-[(6-isocyanatohexyl)amino]-4-oxobutanoate] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C55 H65 N7 O10 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



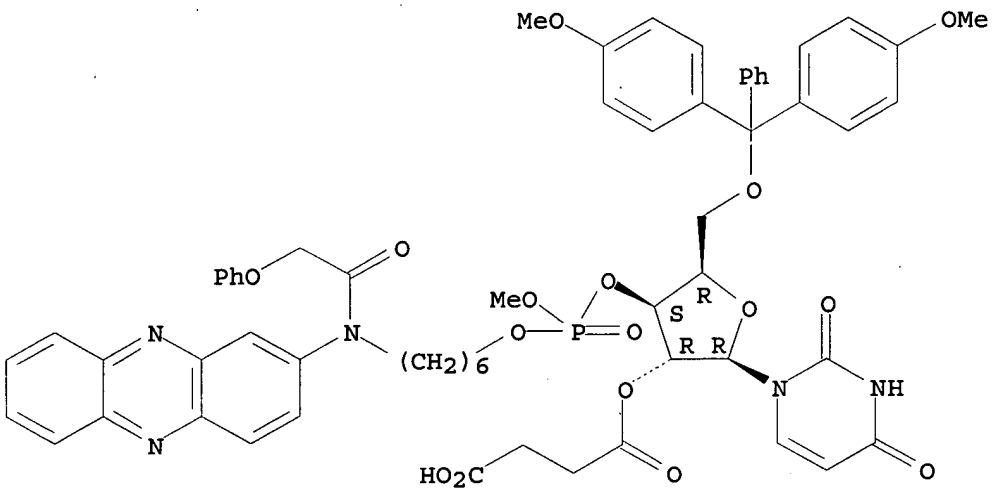
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

L48 ANSWER 43 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **211442-15-8** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-(3-carboxy-1-oxopropyl)-3-O-[methoxy[[6-[2-phenazinyl(phenoxyacetyl)amino]hexyl]oxy]phosphinyl]-.beta.-D-xylofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C61 H62 N5 O16 P

SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



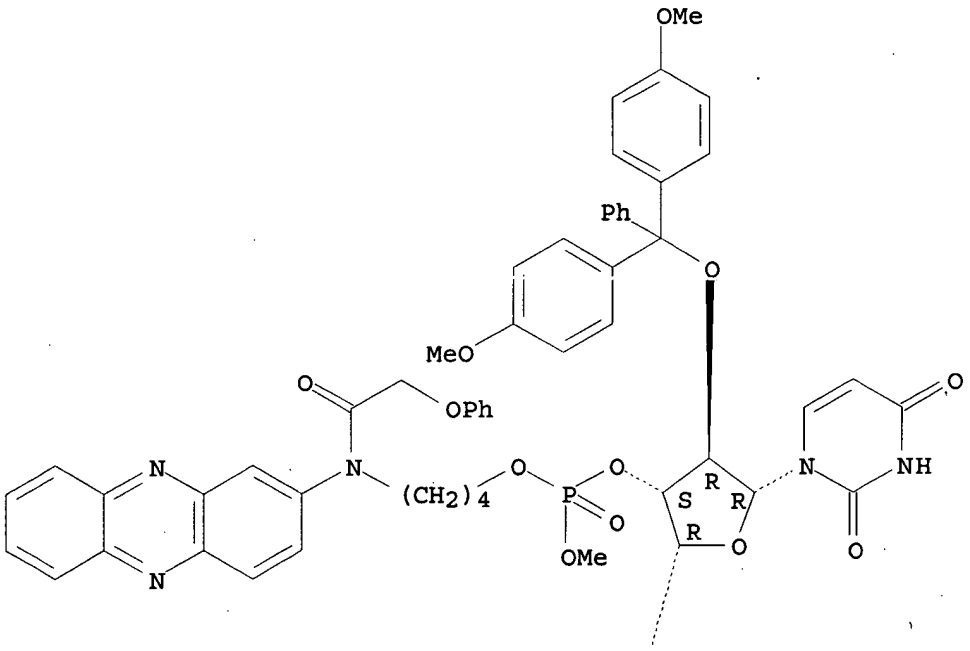
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:189598

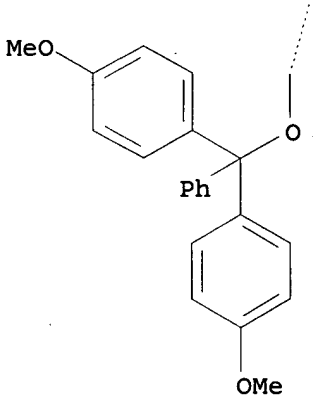
L48 ANSWER 50 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **211441-99-5** REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-bis-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[methoxy[4-[2-phenazinyl(phenoxyacetyl)amino]butoxy]phosphinyl]-.beta.-D-xylofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C76 H72 N5 O15 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



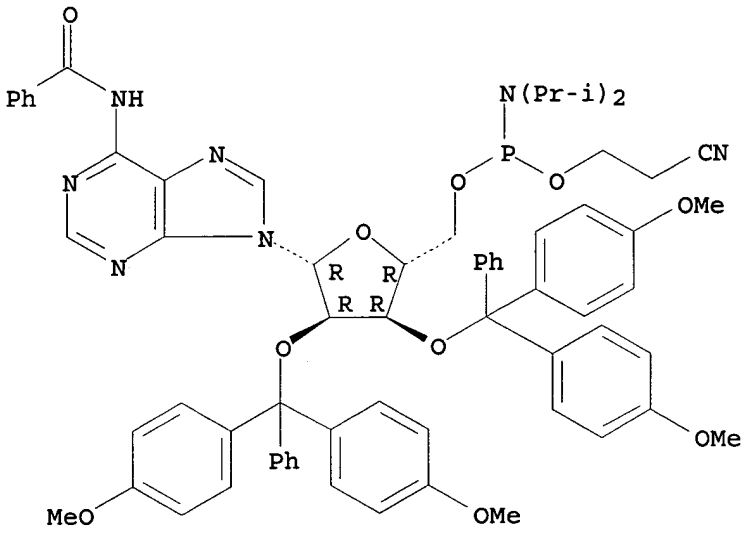
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:189598

Searcher : Shears 308-4994

L48 ANSWER 62 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **204505-63-5** REGISTRY
CN Adenosine, N-benzoyl-2',3'-bis-O-[bis(4-methoxyphenyl)phenylmethyl]-, 5'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C68 H70 N7 O10 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

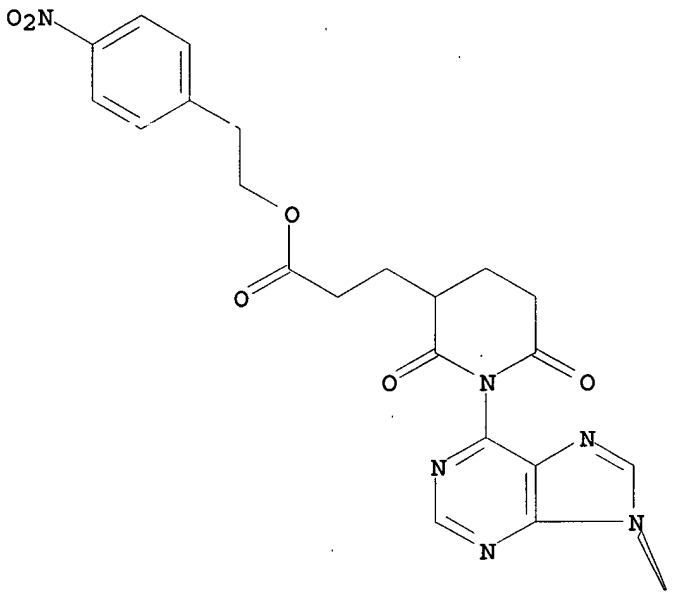
REFERENCE 1: 128:230626

L48 ANSWER 63 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **201855-47-2** REGISTRY
CN 3-Piperidinepropanoic acid, 1-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[2-(4-nitrophenyl)ethoxy]carbonyl]-.beta.-D-ribofuranosyl]-9H-purin-6-yl]-2,6-dioxo-, 2-(4-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C56 H53 N7 O16
SR CA

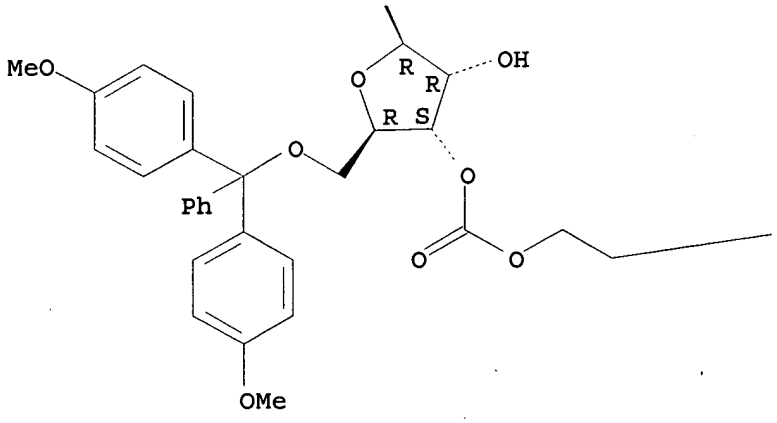
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

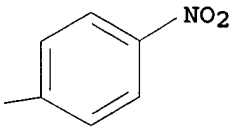
PAGE 1-A



PAGE 2-A



PAGE 2-B



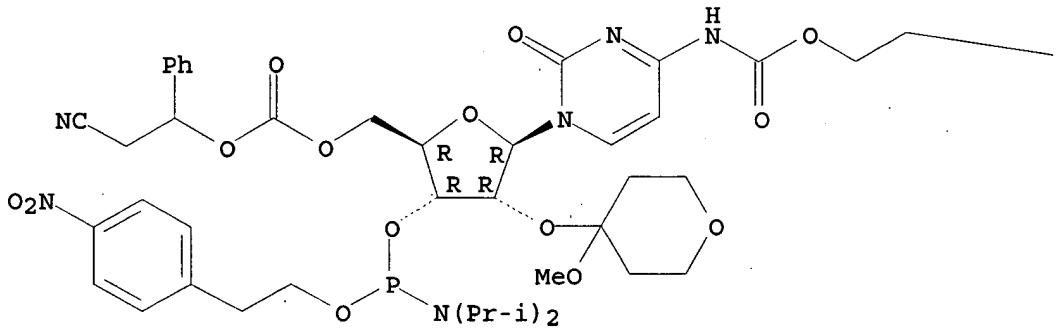
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:128236

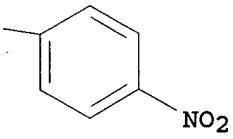
L48 ANSWER 71 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **195881-48-2** REGISTRY
CN Cytidine, N-[[2-(4-nitrophenyl)ethoxy]carbonyl]-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-, 5'-(2-cyano-1-phenylethyl carbonate) 3'-[2-(4-nitrophenyl)ethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C48 H58 N7 O16 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



Searcher : Shears 308-4994

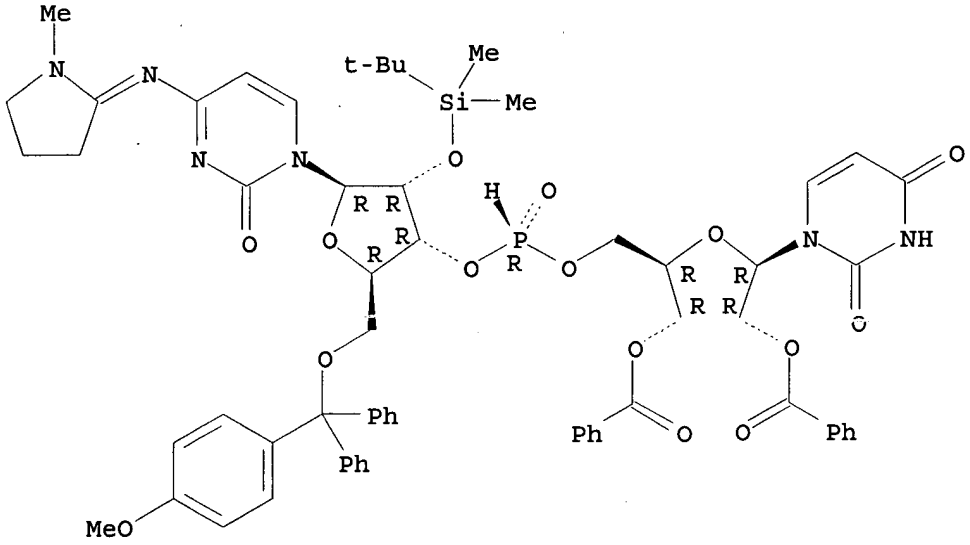


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 127:262966

L48 ANSWER 87 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **183813-70-9** REGISTRY
CN Uridine, (R)-P-deoxy-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-N-(1-methyl-2-pyrrolidinylidene)cytidylyl-(3'.fwdarw.5')-, 2',3'-dibenzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C63 H69 N6 O15 P Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.
Double bond geometry unknown.

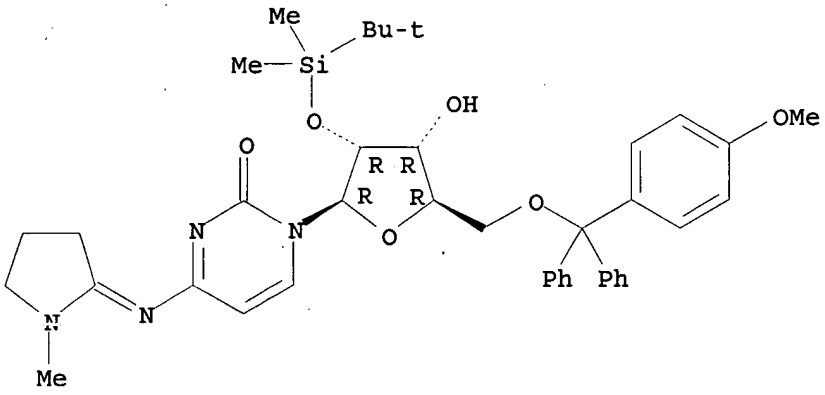


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

L48 ANSWER 94 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **183593-25-1** REGISTRY
CN Cytidine, 2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-N-(1-methyl-2-pyrrolidinylidene)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C40 H50 N4 O6 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.
Double bond geometry unknown.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

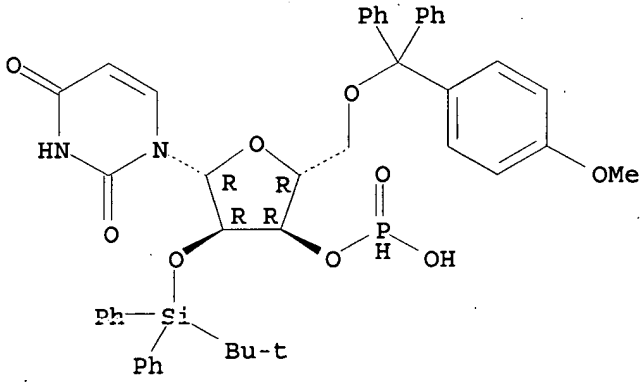
REFERENCE 1: 126:8480

L48 ANSWER 112 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **183592-98-5** REGISTRY
CN Uridine, 2'-O-[(1,1-dimethylethyl)diphenylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-, 3'-(hydrogen phosphonate), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C45 H47 N2 O9 P Si . C6 H15 N
SR CA
LC STN Files: CA, CAPLUS

CM 1

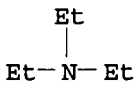
CRN 183592-97-4
CMF C45 H47 N2 O9 P Si

Absolute stereochemistry.



CM 2

CRN 121-44-8
CMF C6 H15 N



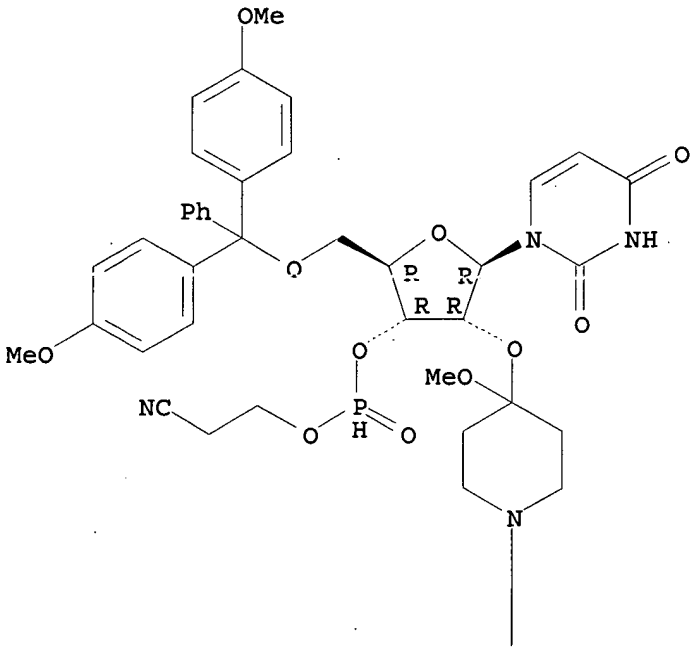
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

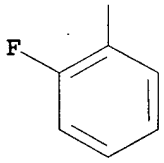
L48 ANSWER 113 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **160107-20-0** REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-fluorophenyl)-4-methoxy-4-piperidinyl]-, 3'-(2-cyanoethyl phosphonate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 216692-04-5
MF C45 H48 F N4 O11 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:38628

REFERENCE 2: 122:56375

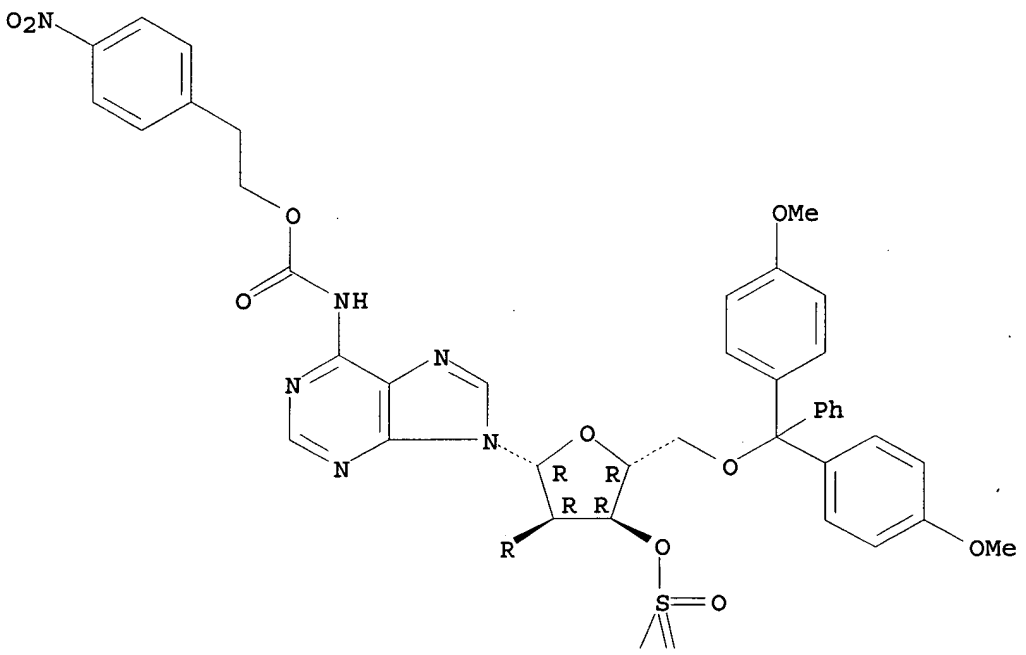
L48 ANSWER 114 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **156046-21-8** REGISTRY
CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-[[2-(4-nitrophenyl)ethoxy]carbonyl]-, 2'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] 3'-(4-nitrobenzeneethanesulfonate)

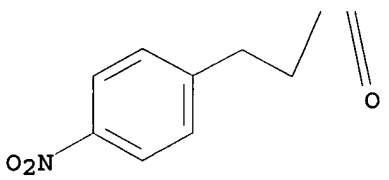
Searcher : Shears 308-4994

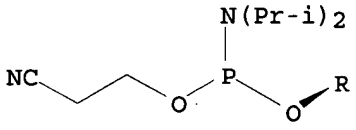
(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Benzeneethanesulfonic acid, 4-nitro-, ester with 2-(4-nitrophenyl)ethyl [9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-.beta.-D-ribofuranosyl]-9H-purin-6-yl]carbamate
FS STEREOSEARCH
MF C57 H62 N9 O15 P S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A







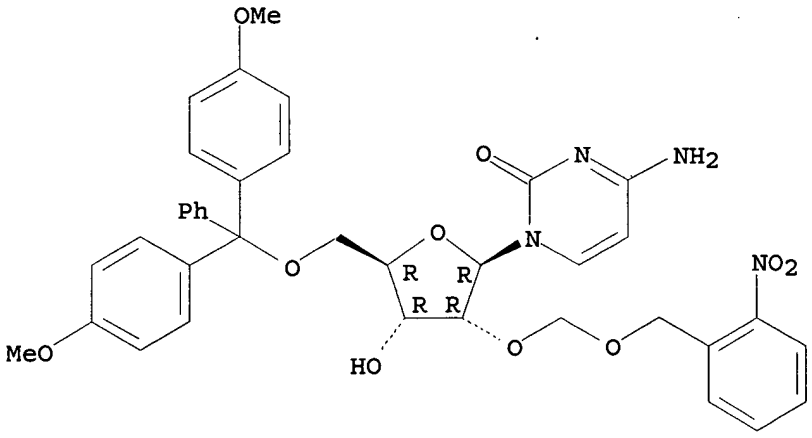
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:128236

REFERENCE 2: 121:36085

L48 ANSWER 116 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **149622-84-4** REGISTRY
CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[[(2-nitrophenyl)methoxy]methyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C38 H38 N4 O10
SR CA
LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.



Searcher : Shears 308-4994

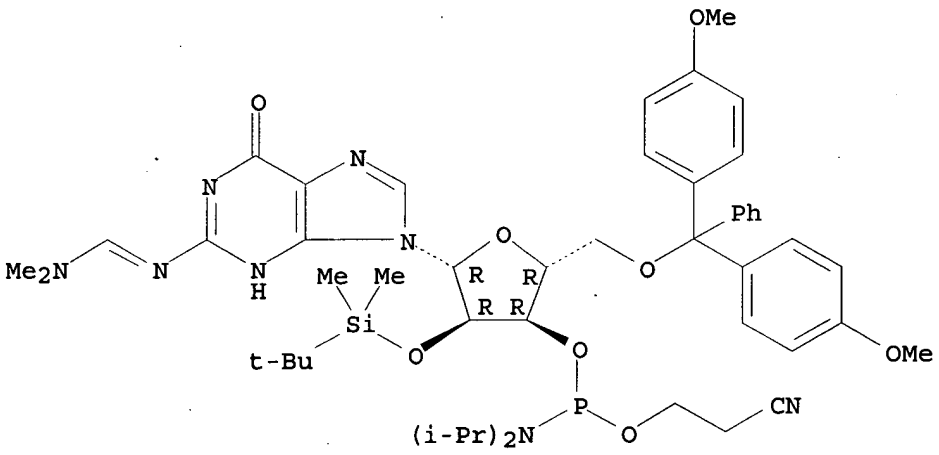
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:116449

REFERENCE 2: 119:226327

L48 ANSWER 118 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **149559-87-5** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-[(dimethylamino)methylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C49 H67 N8 O8 P Si
SR CA
LC STN Files: CA, CAPLUS, MSDS-OHS, USPATFULL

Absolute stereochemistry.
Double bond geometry unknown.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

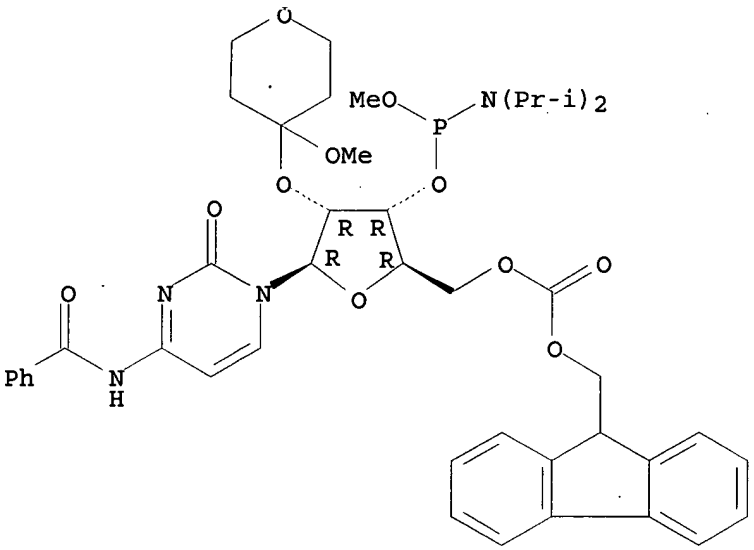
REFERENCE 1: 129:276182

REFERENCE 2: 119:139708

L48 ANSWER 119 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **149018-88-2** REGISTRY
CN Cytidine, N-benzoyl-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-,

5'-(9H-fluoren-9-ylmethyl carbonate) 3'-[methyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C44 H53 N4 O11 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:117709

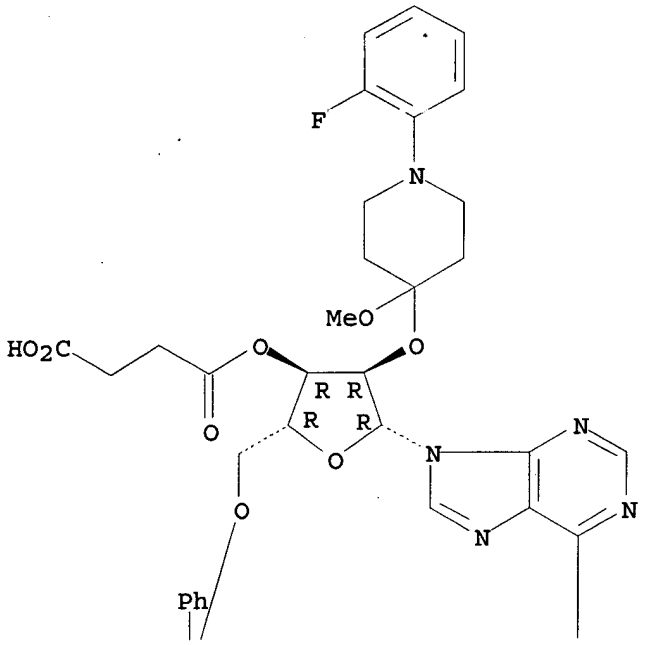
L48 ANSWER 122 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **147490-83-3** REGISTRY
CN Adenosine, N-(2,2-dimethyl-1-oxopropyl)-2'-O-[1-(2-fluorophenyl)-4-methoxy-4-piperidinyl]-5'-O-(9-phenyl-9H-xanthen-9-yl)-, 3'-(hydrogen butanedioate), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C50 H51 F N6 O10 . C6 H15 N
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

CM 1

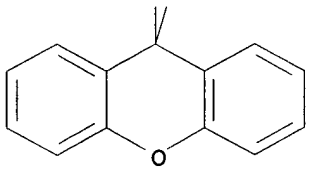
CRN 147490-82-2
CMF C50 H51 F N6 O10

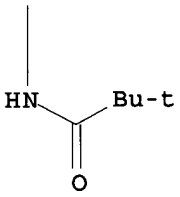
Absolute stereochemistry.

PAGE 1-A



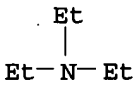
PAGE 2-A





CM 2

CRN 121-44-8
CMF C6 H15 N

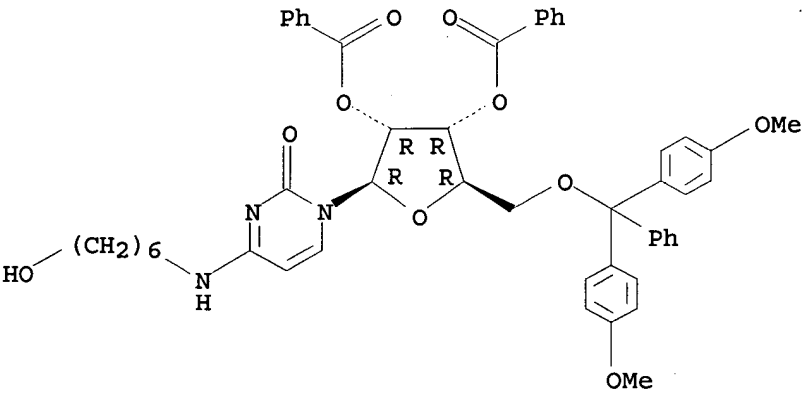


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:203741

L48 ANSWER 123 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **141719-91-7** REGISTRY
CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(6-hydroxyhexyl)-, 2',3'-dibenzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C50 H51 N3 O10
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:192872

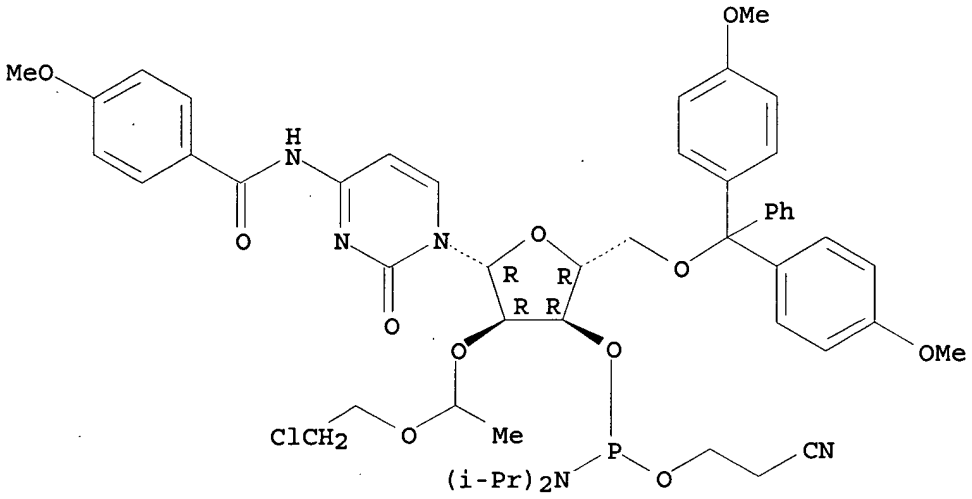
REFERENCE 2: 124:9343

REFERENCE 3: 123:257264

REFERENCE 4: 117:8373

L48 ANSWER 126 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **138603-22-2** REGISTRY
CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-chloroethoxy)ethyl]-N-(4-methoxybenzoyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C51 H61 Cl N5 O11 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

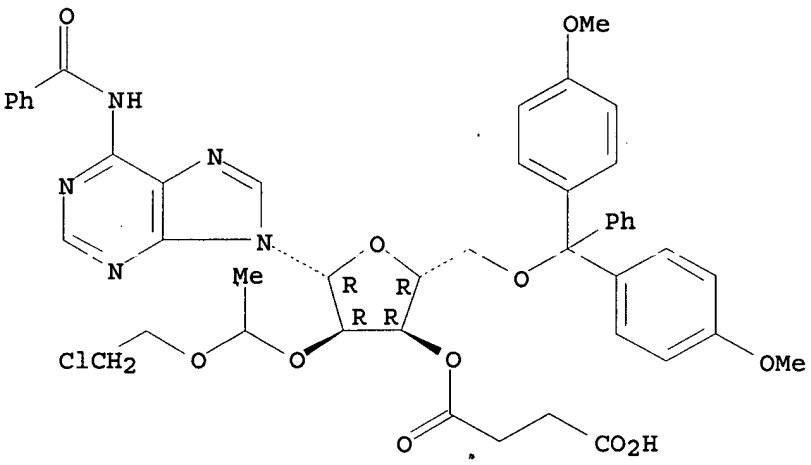


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 116:84093

L48 ANSWER 130 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **138494-35-6** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-chloroethoxy)ethyl]-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C46 H46 Cl N5 O11
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

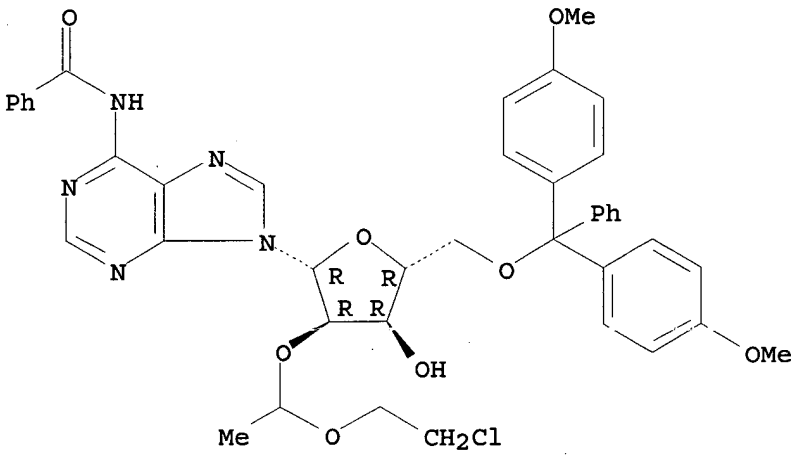


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 116:84093

L48 ANSWER 135 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **138078-31-6** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-chloroethoxy)ethyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C42 H42 Cl N5 O8
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



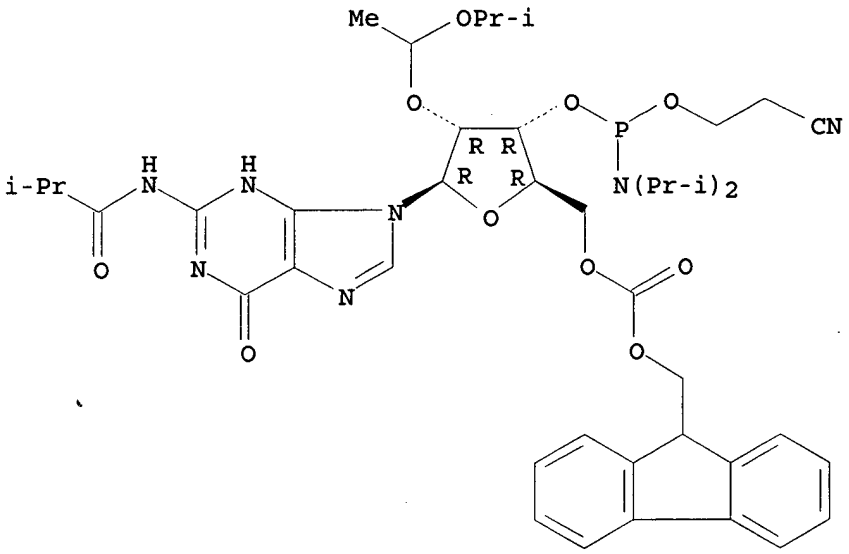
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 116:84093

REFERENCE 2: 116:41988

L48 ANSWER 136 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **136292-88-1** REGISTRY
CN Guanosine, 2'-O-[1-(1-methylethoxy)ethyl]-N-(2-methyl-1-oxopropyl)-,
3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite]
5'-(9H-fluoren-9-ylmethyl carbonate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C43 H56 N7 O10 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

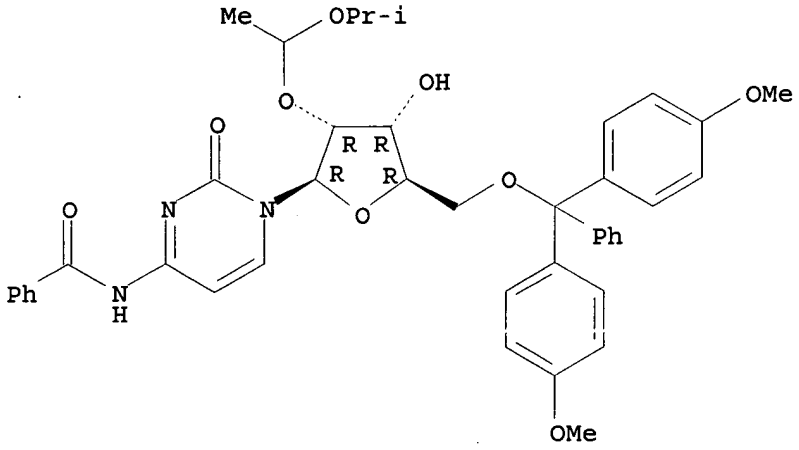


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:183767

L48 ANSWER 137 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **136289-10-6** REGISTRY
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(1-methylethoxy)ethyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C42 H45 N3 O9
SR CA
LC STN Files: CA, CAPLUS

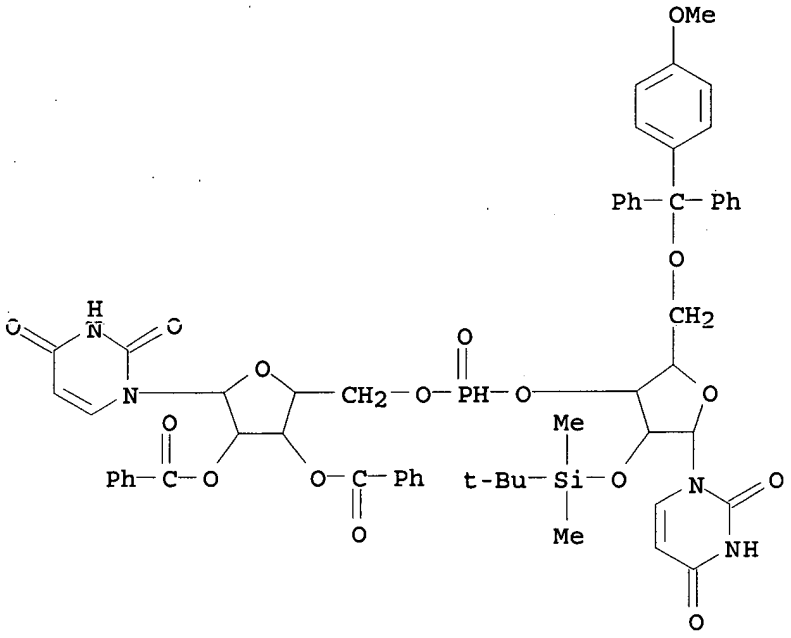
Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:183767

L48 ANSWER 145 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **135819-26-0** REGISTRY
CN Uridine, P-deoxy-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]uridylyl-(3'.fwdarw.5')-, 2',3'-dibenzoate, (R)- (9CI) (CA INDEX NAME)
MF C58 H61 N4 O16 P Si
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

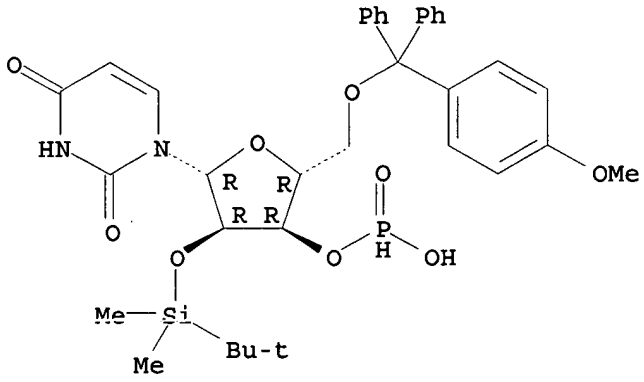
REFERENCE 2: 115:114975

L48 ANSWER 146 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **135780-94-8** REGISTRY
CN Uridine, 2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-, 3'-(hydrogen phosphonate), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H43 N2 O9 P Si . C6 H15 N
SR CA
LC STN Files: CA, CAPLUS

CM 1

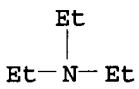
CRN 135704-46-0
CMF C35 H43 N2 O9 P Si

Absolute stereochemistry.



CM 2

CRN 121-44-8
CMF C6 H15 N



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

REFERENCE 2: 124:146701

REFERENCE 3: 121:301211

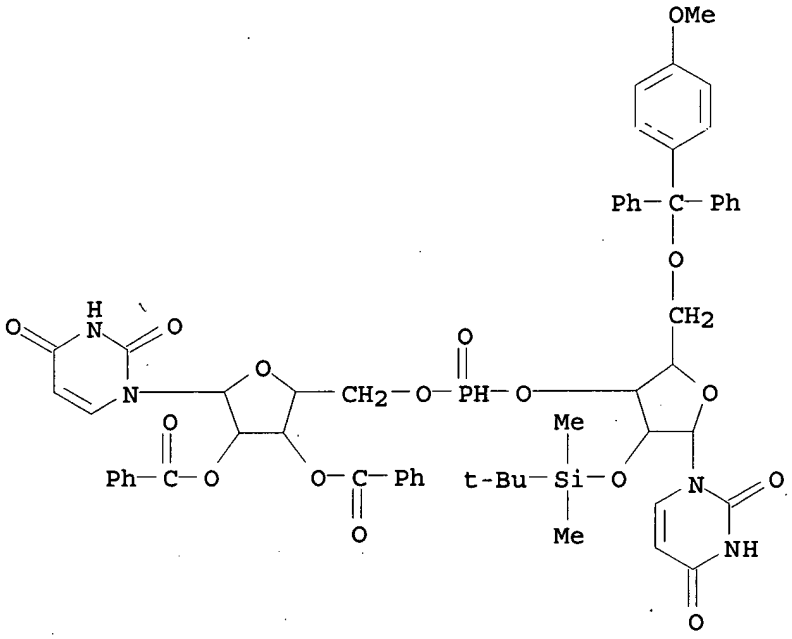
REFERENCE 4: 121:231258

REFERENCE 5: 120:299201

REFERENCE 6: 115:114978

L48 ANSWER 147 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **135760-21-3** REGISTRY
CN Uridine, P-deoxy-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]uridylyl-(3'.fwdarw.5')-, 2',3'-dibenzoate, (S)- (9CI) (CA INDEX NAME)
MF C58 H61 N4 O16 P Si

SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

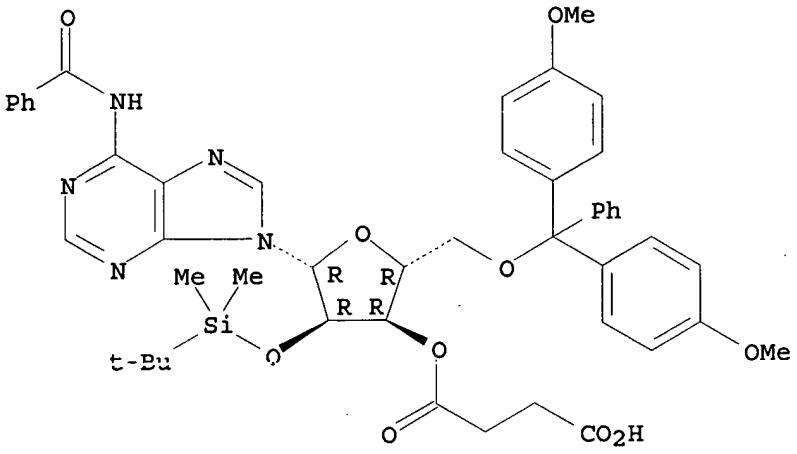
REFERENCE 1: 126:8480

REFERENCE 2: 115:114975

L48 ANSWER 148 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **131316-88-6** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C48 H53 N5 O10 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searcher : Shears 308-4994



4 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

REFERENCE 2: 124:343960

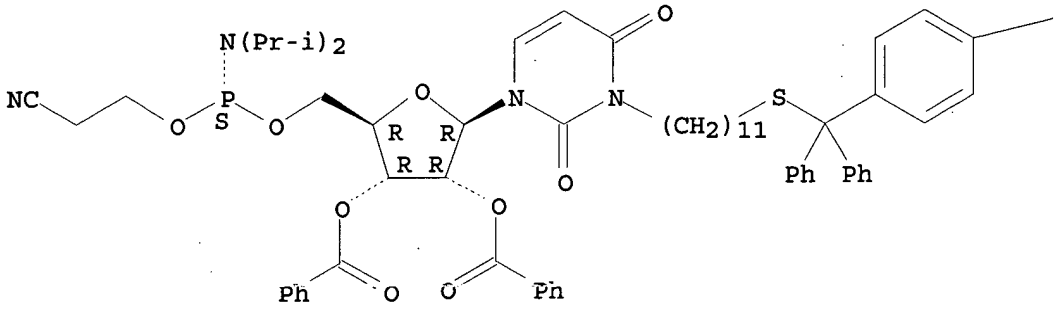
REFERENCE 3: 120:107589

REFERENCE 4: 114:43472

L48 ANSWER 149 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **130530-61-9** REGISTRY
CN Uridine, 3-[11-[[(4-methoxyphenyl)diphenylmethyl]thio]undecyl]-, 2',3'-dibenzoate 5'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite], (S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C63 H75 N4 O10 P S
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

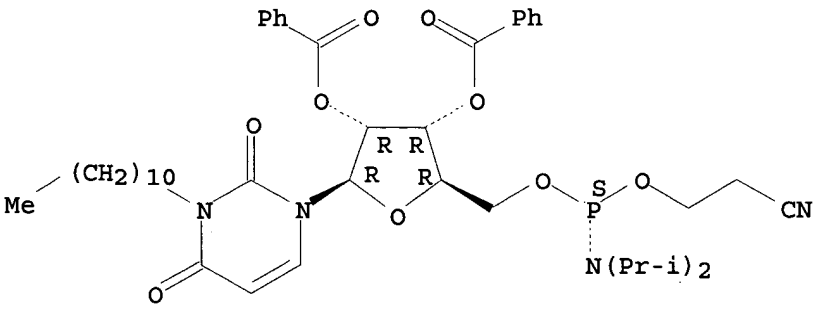
—OMe

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 113:231900

L48 ANSWER 150 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **130518-98-8** REGISTRY
CN Uridine, 3-undecyl-, 2',3'-dibenzoate 5'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite], (S)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C43 H59 N4 O9 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



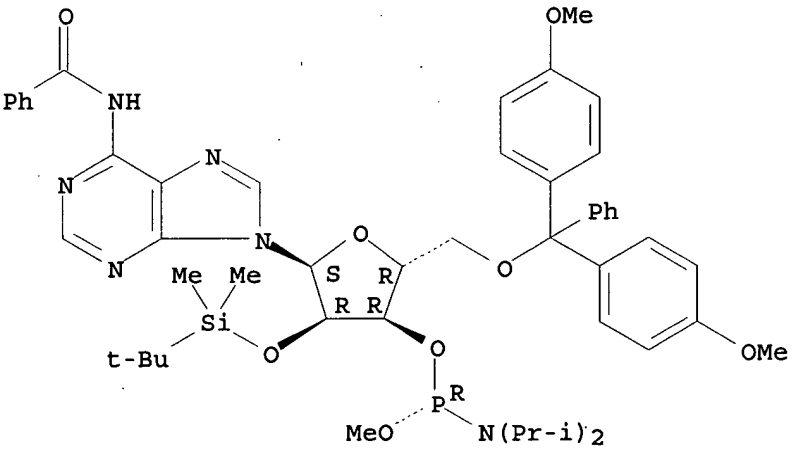
Searcher : Shears 308-4994

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 113:231900

L48 ANSWER 155 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **129707-13-7** REGISTRY
CN Benzamide, N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-9H-purin-6-yl]-, (R)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidous acid, bis(1-methylethyl)-, monomethyl ester, 3'-ester with N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-9H-purin-6-yl]benzamide, (R)-
FS STEREOSEARCH
MF C51 H65 N6 O8 P Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

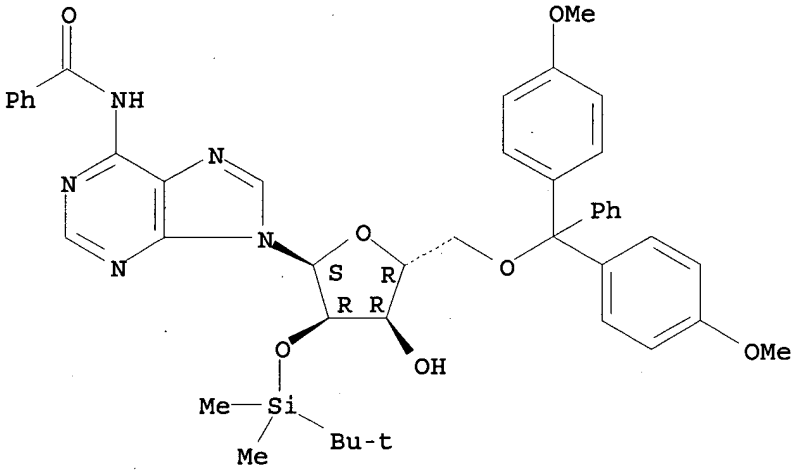
REFERENCE 1: 117:27030

REFERENCE 2: 113:172652

Searcher : Shears 308-4994

L48 ANSWER 158 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **129681-71-6** REGISTRY
CN Benzamide, N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-9H-purin-6-yl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C44 H49 N5 O7 Si
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

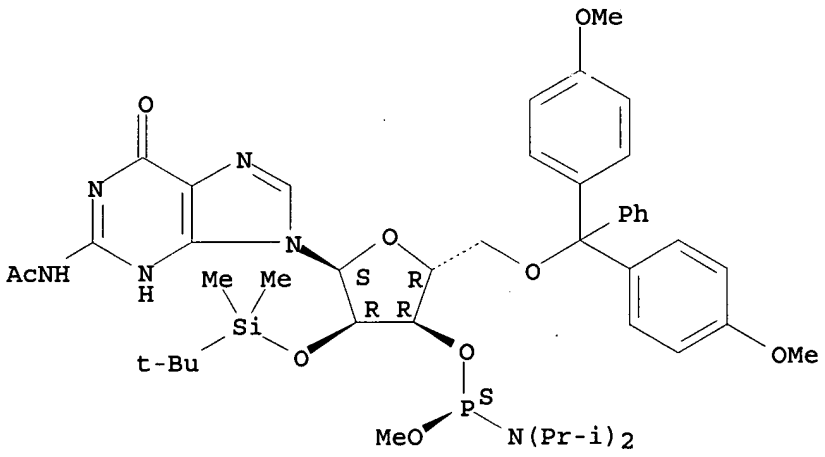
REFERENCE 1: 117:27030

REFERENCE 2: 113:172652

L48 ANSWER 161 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **129666-82-6** REGISTRY
CN Acetamide, N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-6,9-dihydro-6-oxo-1H-purin-2-yl]-, (S)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidous acid, bis(1-methylethyl)-, monomethyl ester, ester with N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-6,9-dihydro-6-oxo-1H-purin-2-yl]acetamide, (S)-

FS STEREOSEARCH
MF C46 H63 N6 O9 P Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



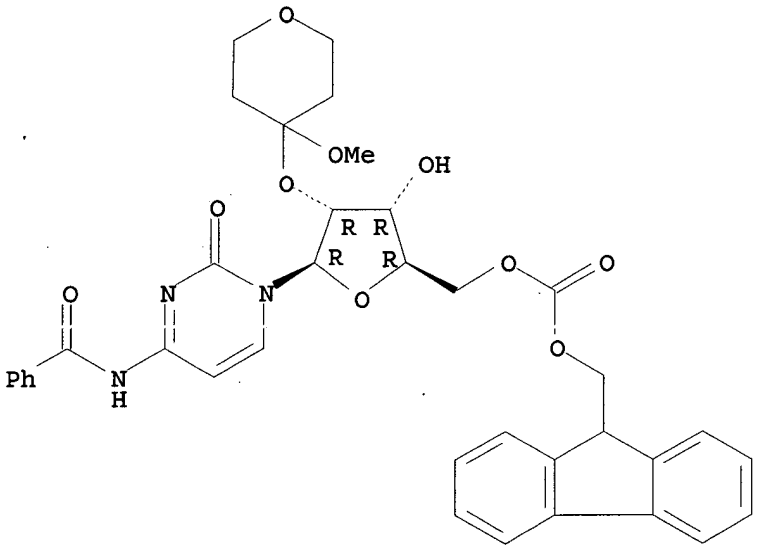
2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:27030

REFERENCE 2: 113:172652

L48 ANSWER 177 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **123755-42-0** REGISTRY
CN Cytidine, N-benzoyl-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-, 5'-(9H-fluoren-9-ylmethyl carbonate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C37 H37 N3 O10
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

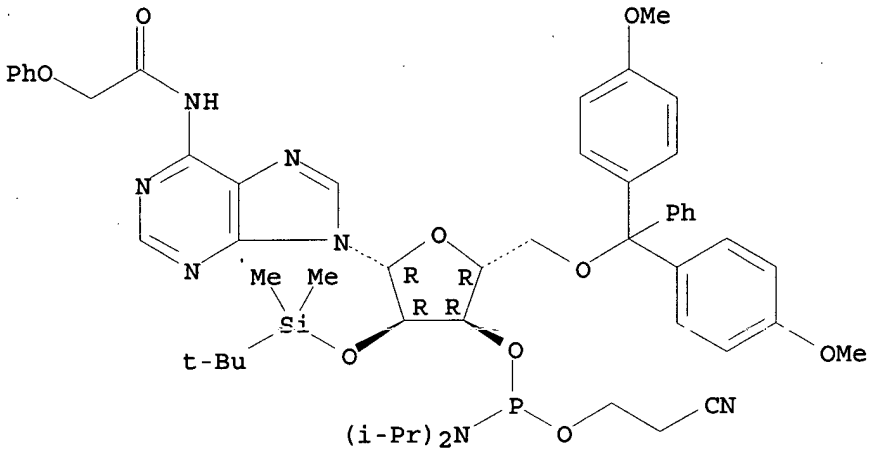
REFERENCE 1: 119:117709

REFERENCE 2: 116:21397

REFERENCE 3: 112:36365

L48 ANSWER 179 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **121058-86-4** REGISTRY
CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(phenoxyacetyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C54 H68 N7 O9 P Si
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, MSDS-OHS
(*File contains numerically searchable property data)

Absolute stereochemistry.



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

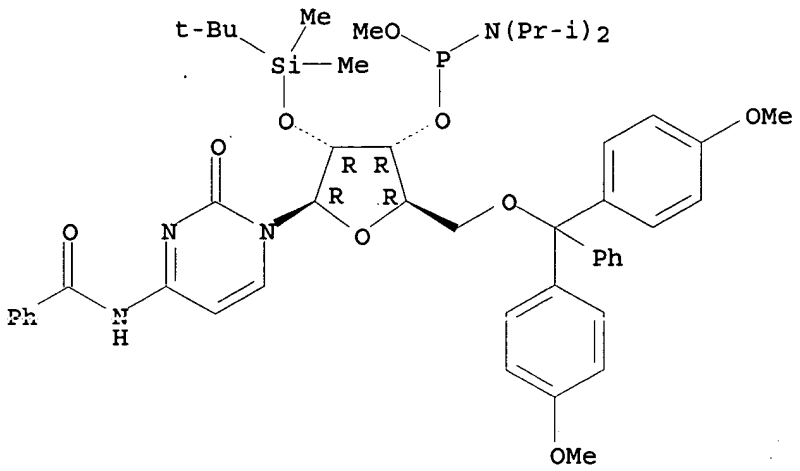
REFERENCE 2: 112:198965

REFERENCE 3: 111:7733

L48 ANSWER 181 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **118684-40-5** REGISTRY
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[methyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C50 H65 N4 O9 P Si
SR CA
LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.

3/15



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

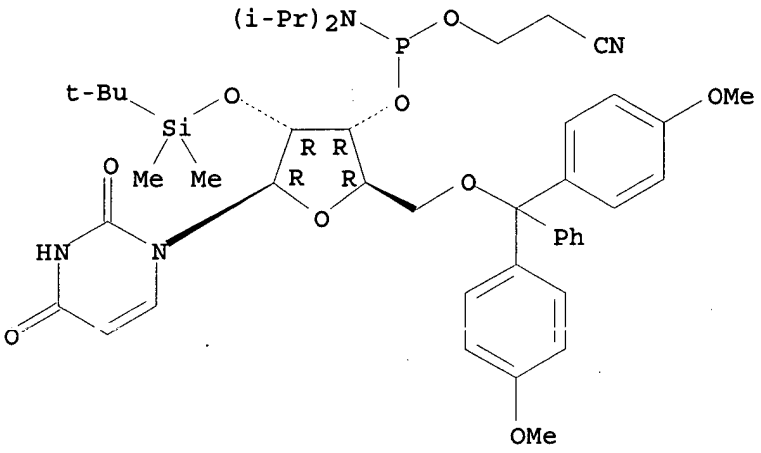
REFERENCE 1: 119:117719

REFERENCE 2: 114:122940

REFERENCE 3: 110:135635

L48 ANSWER 182 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **118362-03-1** REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 148471-47-0
MF C45 H61 N4 O9 P Si
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS, MSDS-OHS, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



17 REFERENCES IN FILE CA (1967 TO DATE)
17 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:219357

REFERENCE 2: 132:279431

REFERENCE 3: 132:166439

REFERENCE 4: 132:12481

REFERENCE 5: 130:264425

REFERENCE 6: 129:276182

REFERENCE 7: 125:276400

REFERENCE 8: 122:127234

REFERENCE 9: 120:192202

REFERENCE 10: 119:181129

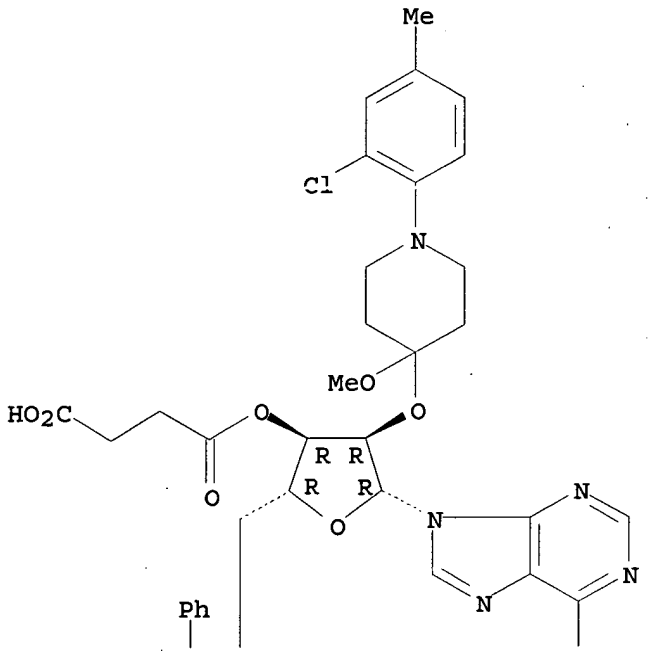
L48 ANSWER 183 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **115436-45-8** REGISTRY
CN Adenosine, 2'-O-[1-(2-chloro-4-methylphenyl)-4-methoxy-4-piperidinyl]-N-[4-(1,1-dimethylethyl)benzoyl]-5'-O-(9-phenyl-9H-xanthen-9-yl)-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C57 H57 Cl N6 O10
SR CA

Searcher : Shears 308-4994

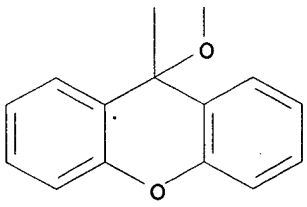
LC STN Files: CA, CAPLUS, CASREACT

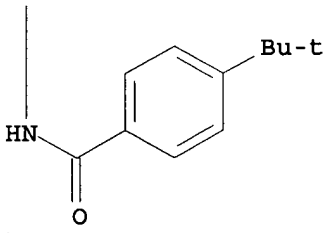
Absolute stereochemistry.

PAGE 1-A



PAGE 2-A





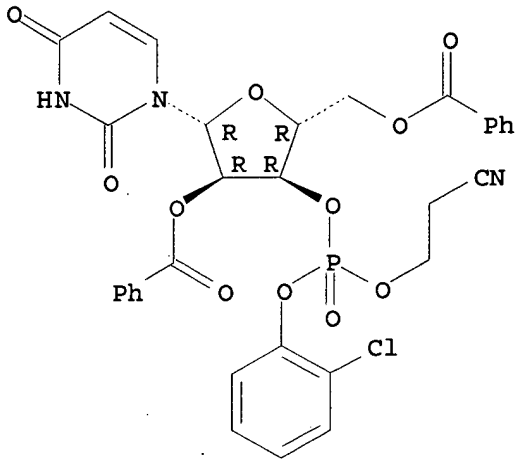
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 109:55161

L48 ANSWER 184 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN **115244-17-2** REGISTRY
CN 3'-Uridylic acid, 2-chlorophenyl 2-cyanoethyl ester, 2',5'-dibenzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H27 Cl N3 O11 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

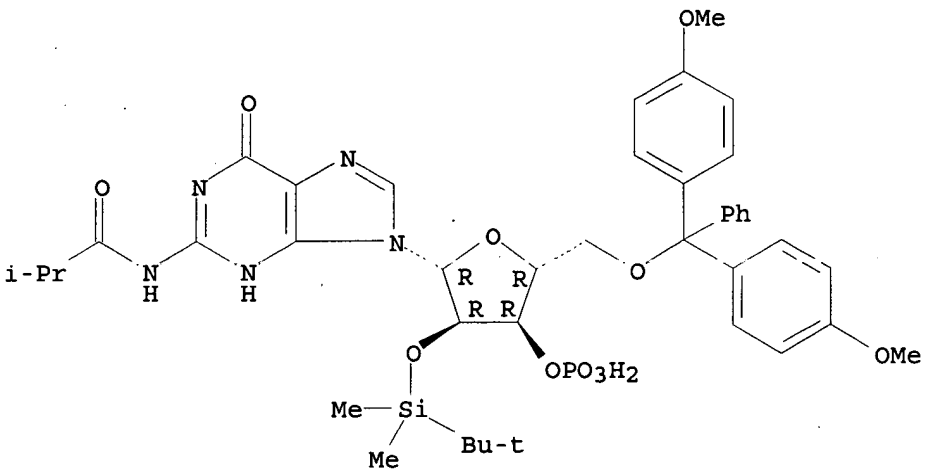
REFERENCE 1: 109:38154

L48 ANSWER 185 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **108586-61-4** REGISTRY
CN 3'-Guanylic acid, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)-, compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H52 N5 O11 P Si . C6 H15 N
SR CA
LC STN Files: CA, CAPLUS, CASREACT

CM 1

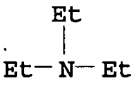
CRN 108586-60-3
CMF C41 H52 N5 O11 P Si

Absolute stereochemistry.



CM 2

CRN 121-44-8
CMF C6 H15 N

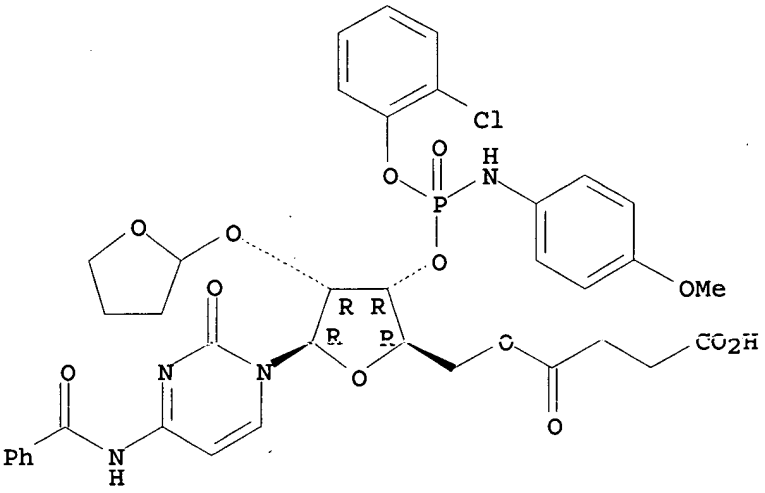


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 107:7503

L48 ANSWER 189 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **102386-02-7** REGISTRY
CN Cytidine, N-benzoyl-2'-O-(tetrahydro-2-furanyl)-, 3'-[2-chlorophenyl (4-methoxyphenyl)phosphoramidate] 5'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C37 H38 Cl N4 O13 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



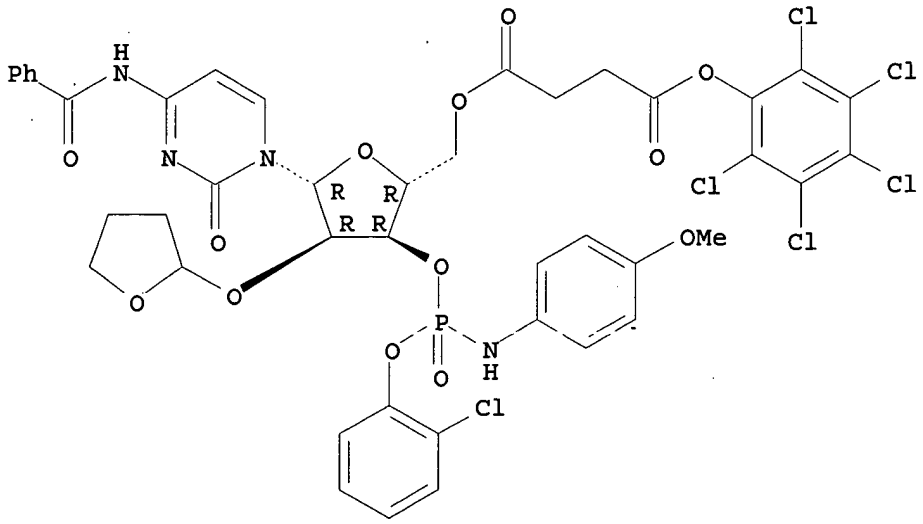
2 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 107:154695

REFERENCE 2: 104:225175

L48 ANSWER 190 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **102386-01-6** REGISTRY
CN Cytidine, N-benzoyl-2'-O-(tetrahydro-2-furanyl)-, 3'-[2-chlorophenyl (4-methoxyphenyl)phosphoramidate] 5'-(pentachlorophenyl butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C43 H37 Cl6 N4 O13 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

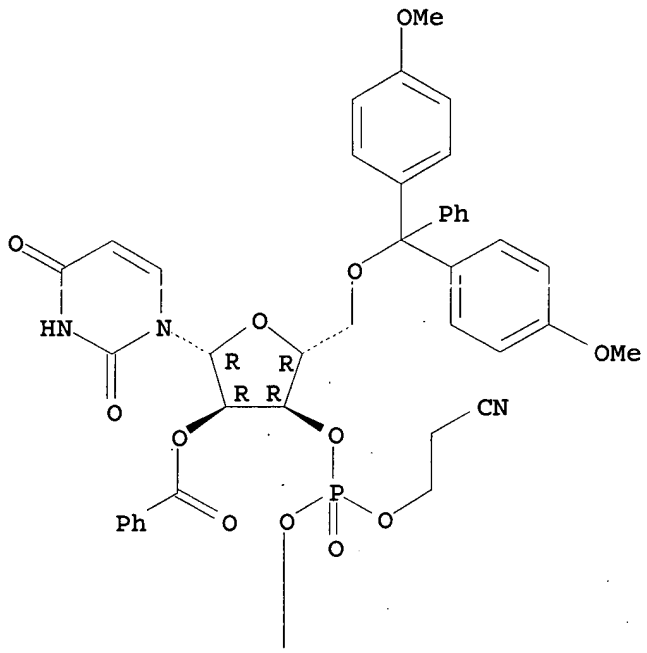
REFERENCE 1: 107:154695

REFERENCE 2: 104:225175

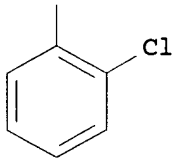
L48 ANSWER 191 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **99335-99-6** REGISTRY
CN 3'-Uridylic acid, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 2-chlorophenyl 2-cyanoethyl ester, 2'-benzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C46 H41 Cl N3 O12 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 109:38154

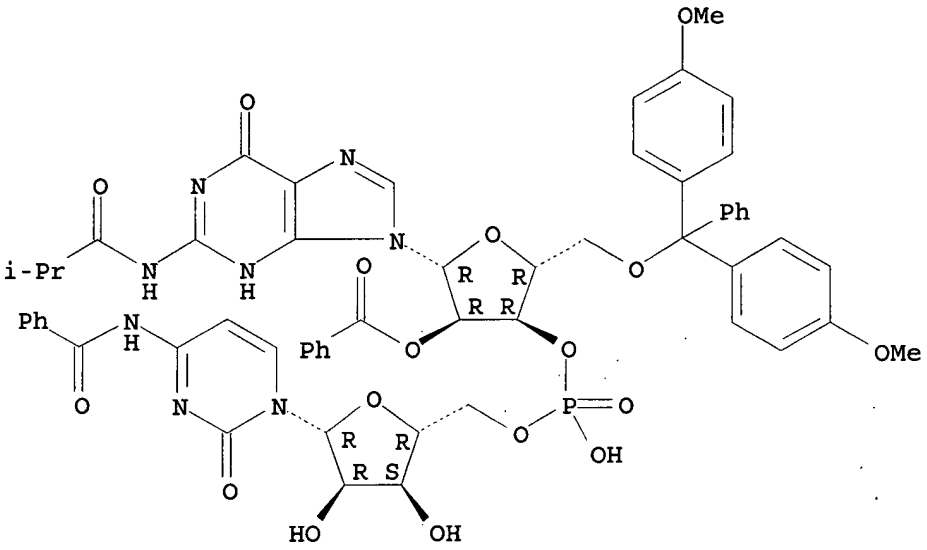
REFERENCE 2: 104:6129

L48 ANSWER 192 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **85342-71-8** REGISTRY
CN Cytidine, 2'-O-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(2-methyl-1-oxopropyl)guanylyl-(3'.fwdarw.5')-N-benzoyl- (9CI) (CA

Searcher : Shears 308-4994

INDEX NAME)
OTHER CA INDEX NAMES:
CN Guanosine, N-benzoylcytidylyl-(5'.fwdarw.3')-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(2-methyl-1-oxopropyl)-, 2'-benzoate
FS STEREOSEARCH
MF C58 H57 N8 O17 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



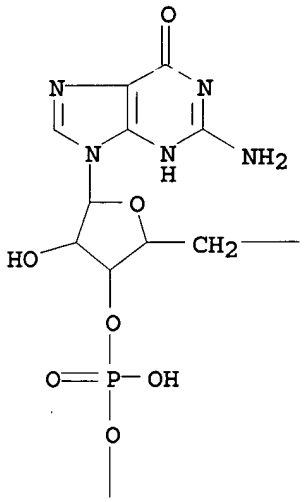
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:161100

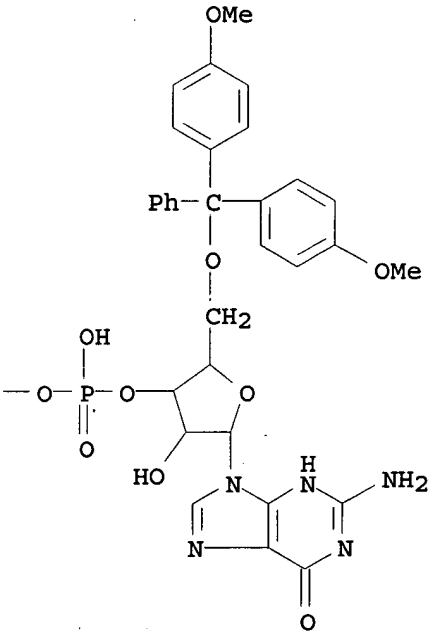
L48 ANSWER 193 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **85322-67-4** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]guanylyl-(3'.fwdarw.5')-guanylyl-(3'.fwdarw.5')-guanylyl-(3'.fwdarw.5')-2'-deoxycytidylyl-(3'.fwdarw.5')-2'-deoxyadenylyl-(3'.fwdarw.5')-thymidylyl-(3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Guanosine, 2'-deoxyguanylyl-(5'.fwdarw.3')-thymidylyl-(5'.fwdarw.3')-2'-deoxyadenylyl-(5'.fwdarw.3')-2'-deoxycytidylyl-(5'.fwdarw.3')-guanylyl-(5'.fwdarw.3')-guanylyl-(5'.fwdarw.3')-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-
MF C90 H104 N30 O45 P6

LC STN Files: CA, CAPLUS

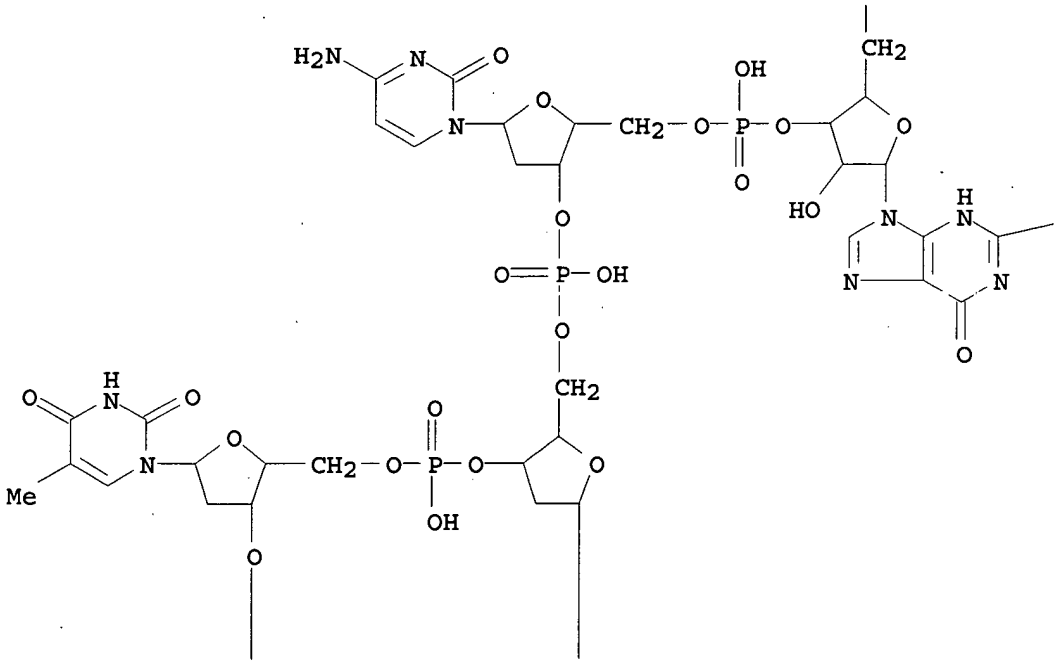
PAGE 1-A



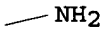
Searcher : Shears 308-4994

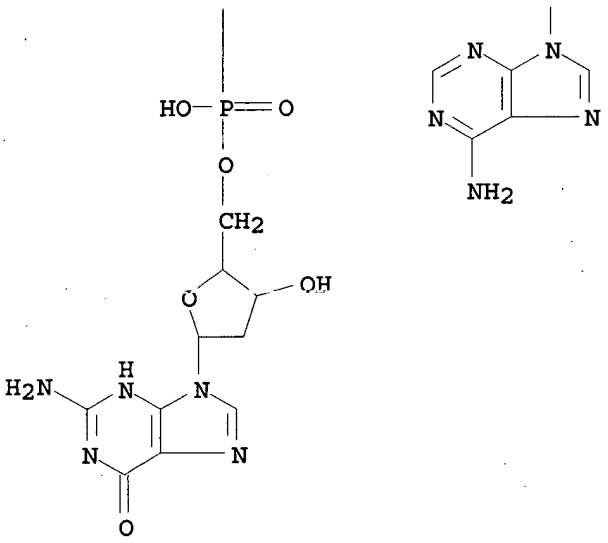

OMe
Ph
C
O
OMe
CH2
OH
O
P
O
O
O
HO
N
H
N
NH2
N
N
O

PAGE 2-A



PAGE 2-B





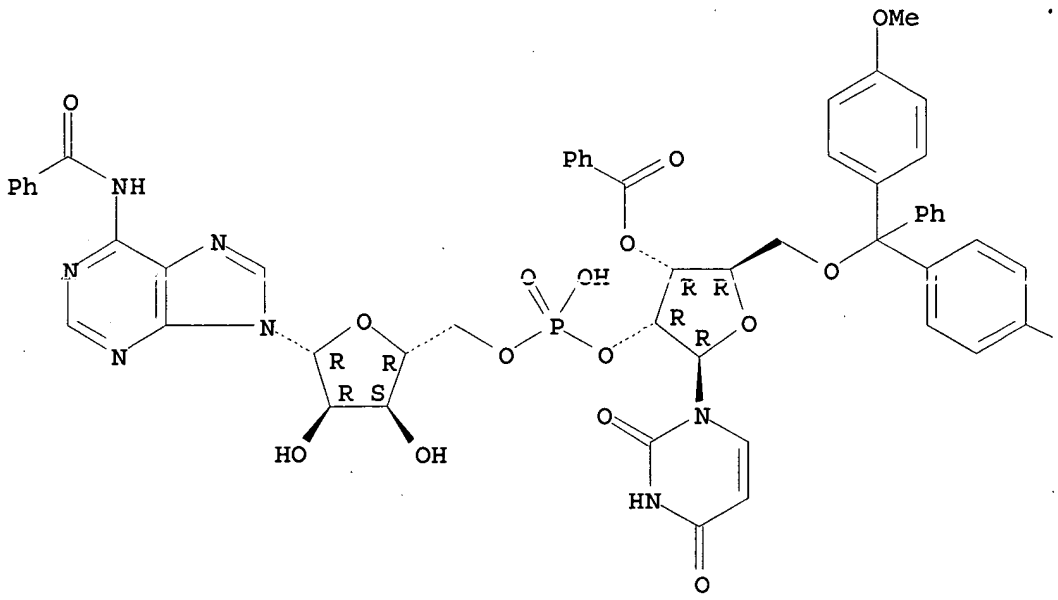
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:161100

L48 ANSWER 195 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **85316-04-7** REGISTRY
CN Adenosine, 3'-O-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]uridy
lyl-(2'.fwdarw.5')-N-benzoyl- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C54 H50 N7 O16 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

OMe

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:161100

L48 ANSWER 197 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **85315-97-5** REGISTRY

CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]uridylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Uridine, uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-

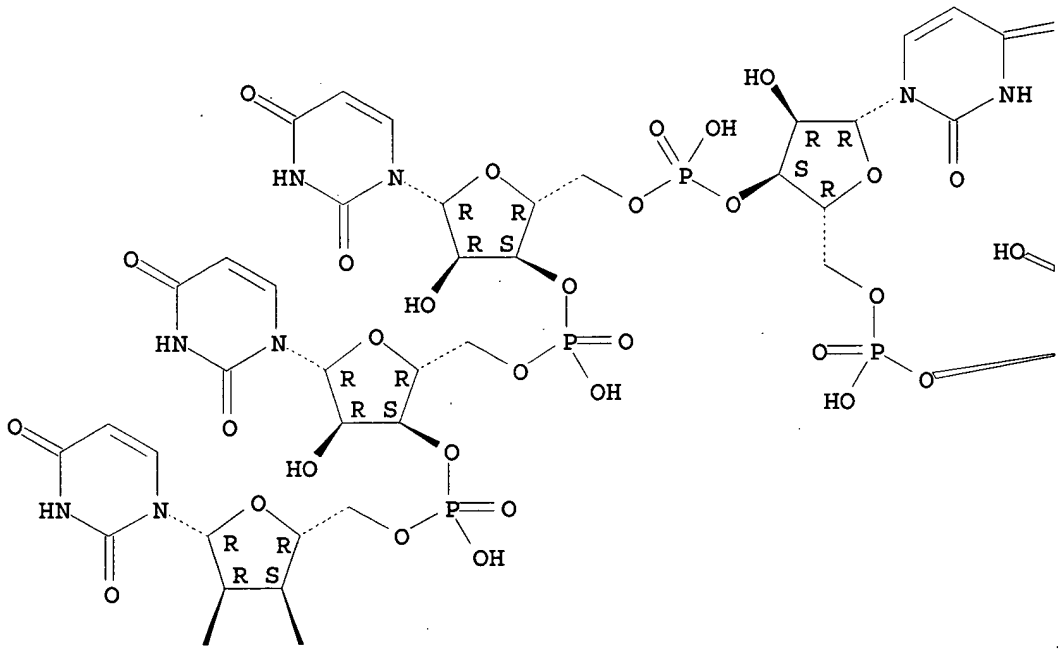
FS STEREOSEARCH

MF C75 H85 N12 O48 P5

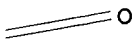
LC STN Files: CA, CAPLUS

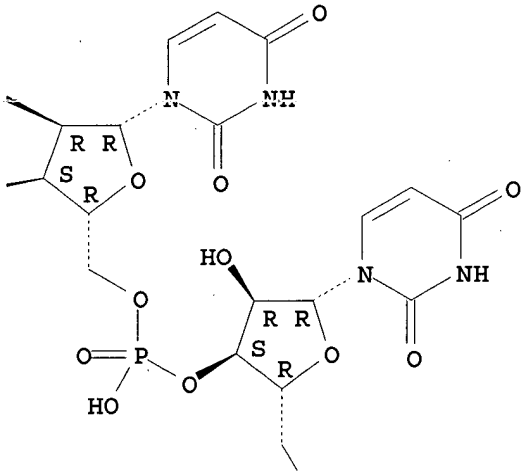
Absolute stereochemistry.

PAGE 1-A



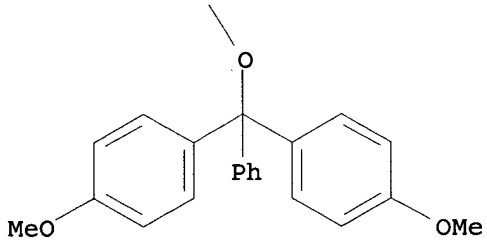
PAGE 1-B





PAGE 2-A

PAGE 2-B



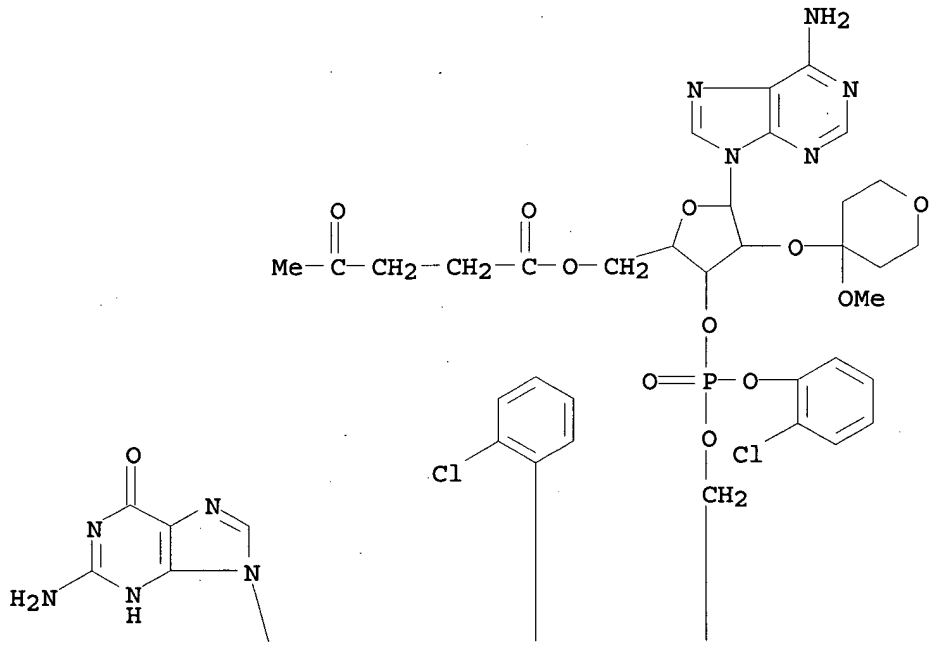
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Searcher : Shears 308-4994

REFERENCE 1: 98:161100

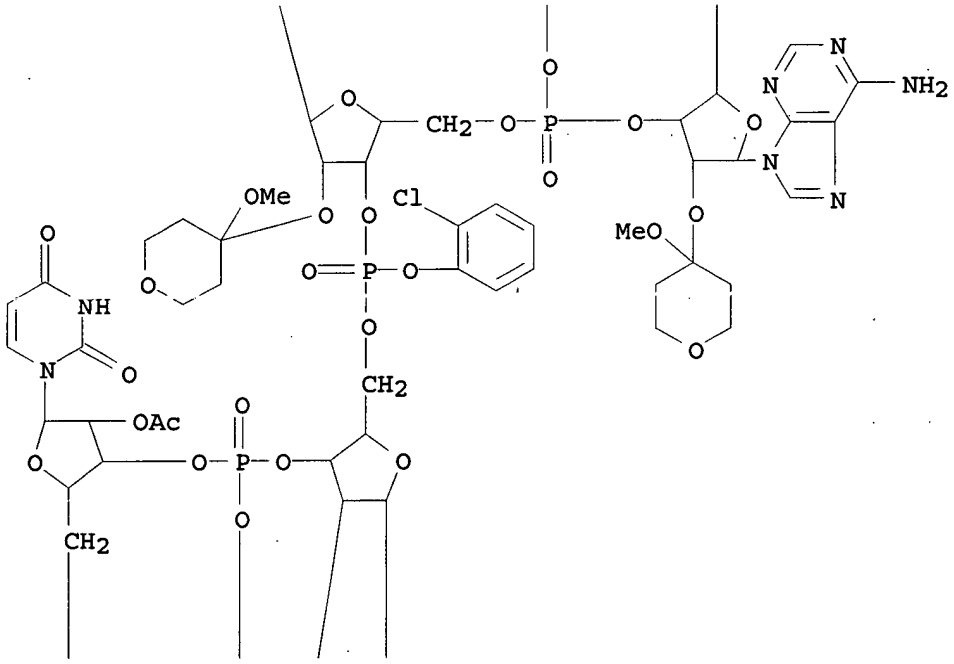
L48 ANSWER 210 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **83480-42-6** REGISTRY
CN 5'-Uridylic acid, P-(2-chlorophenyl)-5'-O-(1,4-dioxopentyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)adenylyl-(3'.fwdarw.5')-P-(2-chlorophenyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)adenylyl-(3'.fwdarw.5')-P-(2-chlorophenyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)guanylyl-(3'.fwdarw.5')-P-(2-chlorophenyl)-N-(4-methoxybenzoyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)adenylyl-(3'.fwdarw.3')-, mono[2-chloro-4-(1,1-dimethylethyl)phenyl] ester, 2'-acetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C122 H138 Cl5 N22 O47 P5
LC STN Files: CA, CAPLUS

PAGE 1-A

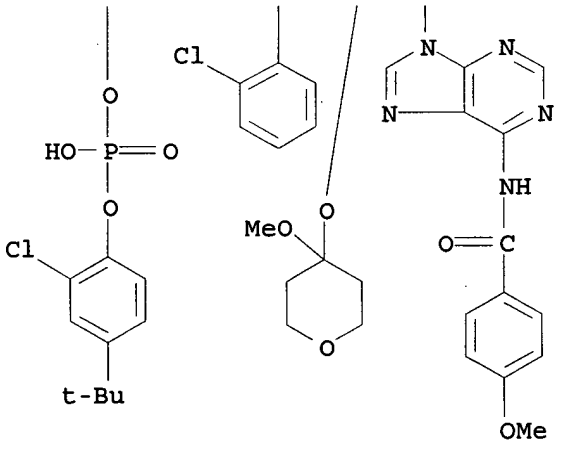


Searcher : Shears 308-4994

PAGE 2-A



PAGE 3-A



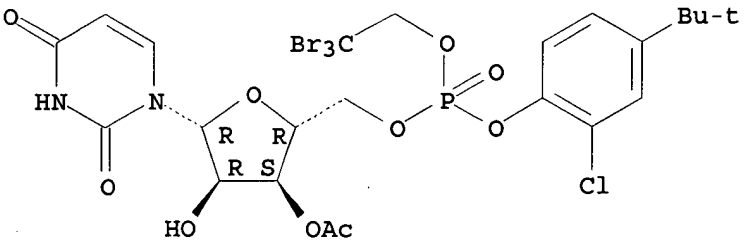
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Searcher : Shears 308-4994

REFERENCE 1: 97:198508

L48 ANSWER 212 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **83472-80-4** REGISTRY
CN 5'-Uridylic acid, 2-chloro-4-(1,1-dimethylethyl)phenyl 2,2,2-tribromoethyl ester, 3'-acetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C23 H27 Br3 Cl N2 O10 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

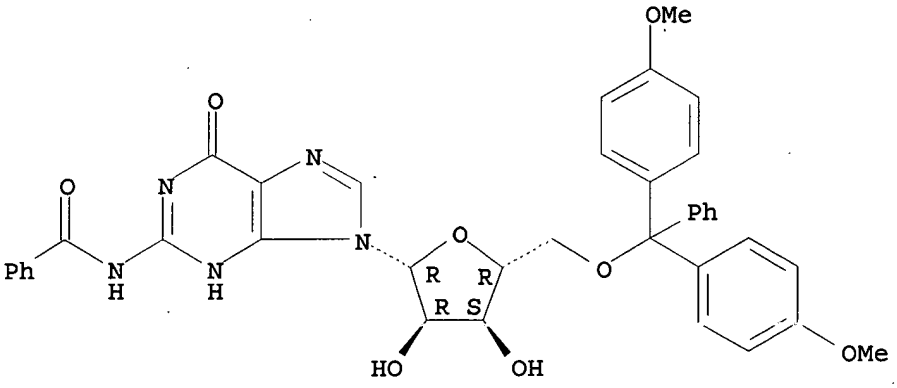


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:198508

L48 ANSWER 215 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **81352-26-3** REGISTRY
CN Guanosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C38 H35 N5 O8
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



8 REFERENCES IN FILE CA (1967 TO DATE)
8 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:278520

REFERENCE 2: 114:82409

REFERENCE 3: 110:75961

REFERENCE 4: 99:140300

REFERENCE 5: 98:161100

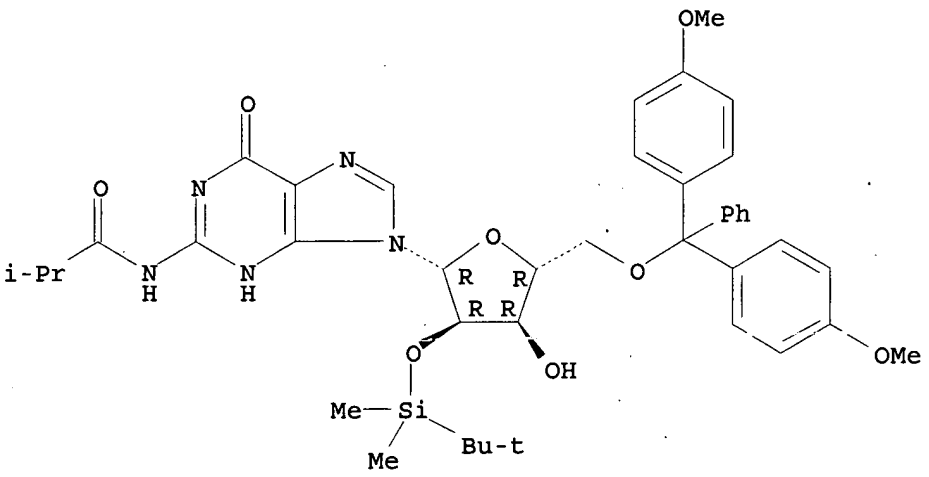
REFERENCE 6: 97:56176

REFERENCE 7: 96:218165

REFERENCE 8: 96:143233

L48 ANSWER 216 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **81279-39-2** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 222725-65-7
MF C41 H51 N5 O8 Si
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)

Absolute stereochemistry.



11 REFERENCES IN FILE CA (1967 TO DATE)
11 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:279431

REFERENCE 2: 132:12481

REFERENCE 3: 130:293236

REFERENCE 4: 125:276401

REFERENCE 5: 122:56372

REFERENCE 6: 120:107589

REFERENCE 7: 114:43472

REFERENCE 8: 111:233459

REFERENCE 9: 110:135635

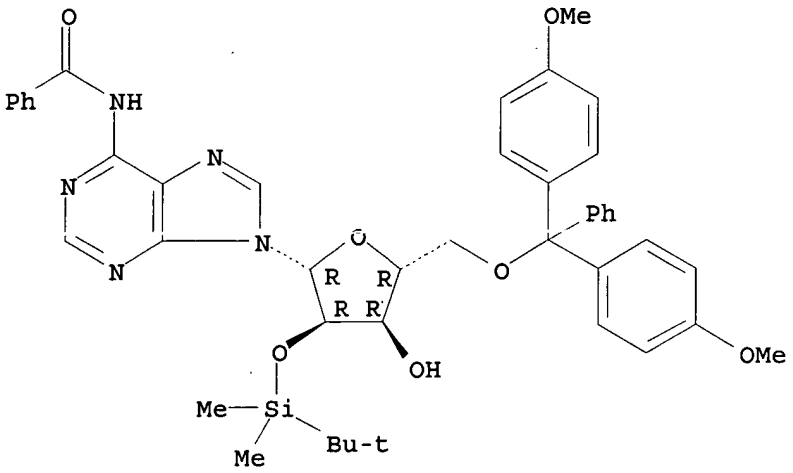
REFERENCE 10: 107:7503

L48 ANSWER 217 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **81265-93-2** REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C44 H49 N5 O7 Si
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT

Searcher : Shears 308-4994

(*File contains numerically searchable property data)

Absolute stereochemistry.



18 REFERENCES IN FILE CA (1967 TO DATE)
18 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:279431

REFERENCE 2: 132:12481

REFERENCE 3: 130:293236

REFERENCE 4: 129:290368

REFERENCE 5: 125:276401

REFERENCE 6: 122:56377

REFERENCE 7: 120:107589

REFERENCE 8: 115:183752

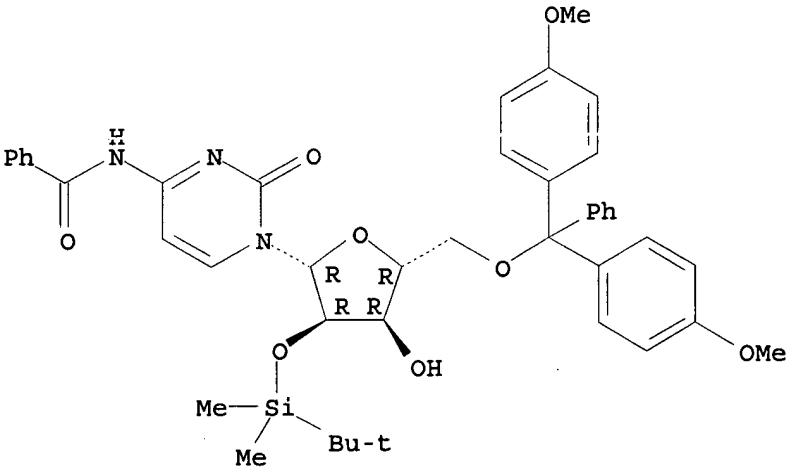
REFERENCE 9: 114:242975

REFERENCE 10: 114:43472

L48 ANSWER 218 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **81256-87-3** REGISTRY
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH
MF C43 H49 N3 O8 Si
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)

Absolute stereochemistry.



22 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
22 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:279431

REFERENCE 2: 132:12481

REFERENCE 3: 125:276401

REFERENCE 4: 122:106339

REFERENCE 5: 122:56377

REFERENCE 6: 120:107589

REFERENCE 7: 119:271605

REFERENCE 8: 119:117719

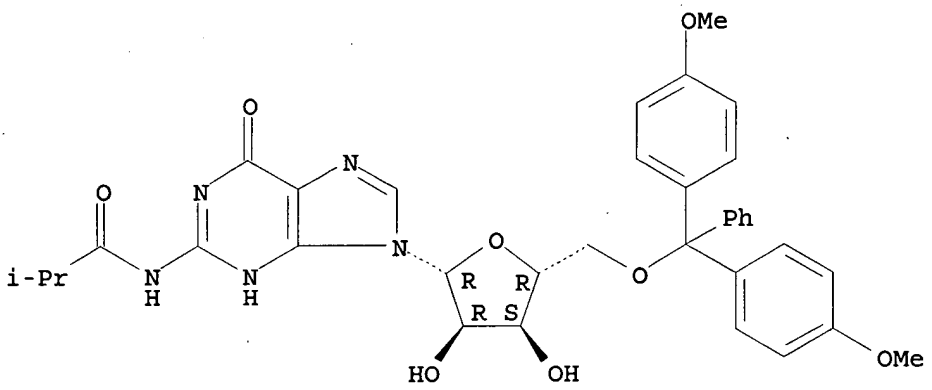
REFERENCE 9: 115:183752

REFERENCE 10: 114:242975

Searcher : Shears 308-4994

L48 ANSWER 219 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **81246-83-5** REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 200575-32-2
MF C35 H37 N5 O8
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



15 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
15 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:338339

REFERENCE 2: 130:168606

REFERENCE 3: 129:260719

REFERENCE 4: 129:122847

REFERENCE 5: 129:4817

REFERENCE 6: 128:72055

REFERENCE 7: 124:30275

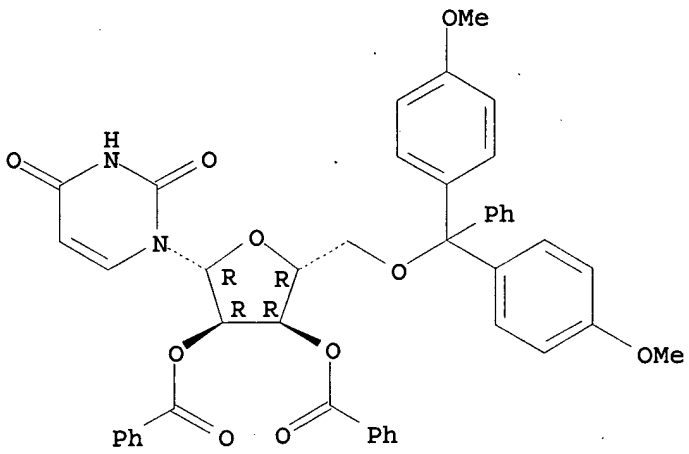
REFERENCE 8: 122:56372

REFERENCE 9: 117:171915

REFERENCE 10: 116:84093

L48 ANSWER 224 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **78462-56-3** REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 2',3'-dibenzoate (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Uridine, 5'-O-[.alpha.,.alpha.-bis(p-methoxyphenyl)benzyl]-, 2',3'-dibenzoate (7CI)
FS STEREOSEARCH
MF C44 H38 N2 O10
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



9 REFERENCES IN FILE CA (1967 TO DATE)
9 REFERENCES IN FILE CAPLUS (1967 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 128:192872

REFERENCE 2: 124:9343

REFERENCE 3: 123:257264

REFERENCE 4: 115:202623

REFERENCE 5: 114:185898

REFERENCE 6: 113:231900

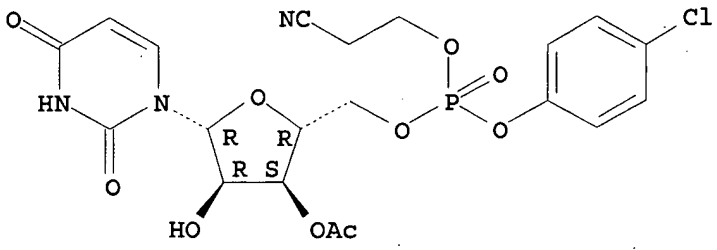
REFERENCE 7: 113:6746

REFERENCE 8: 110:75961

REFERENCE 9: 95:81388

L48 ANSWER 225 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **76726-28-8** REGISTRY
CN 5'-Uridylic acid, 4-chlorophenyl 2-cyanoethyl ester, 3'-acetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C20 H21 Cl N3 O10 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

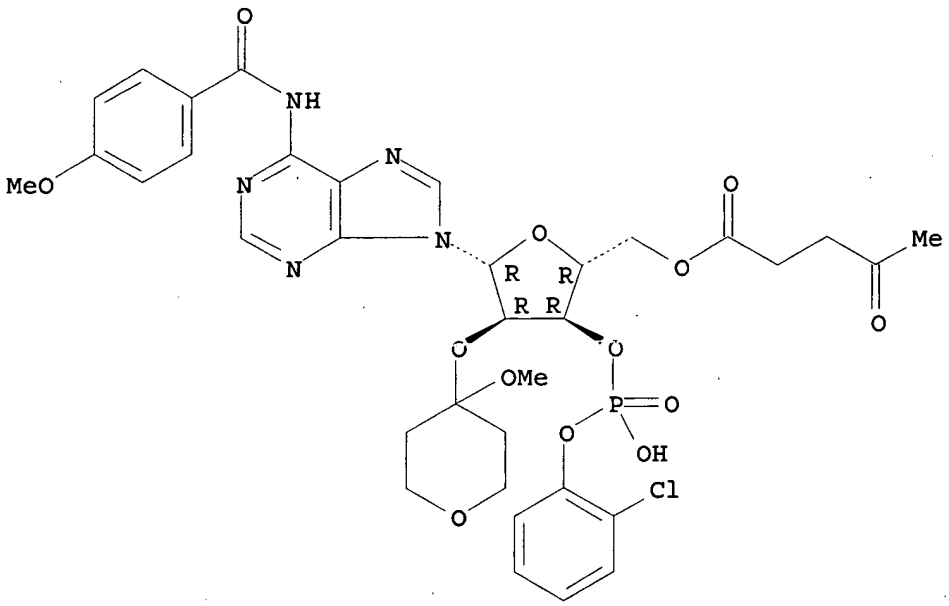


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 94:121840

L48 ANSWER 228 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **69895-37-0** REGISTRY
CN 3'-Adenylic acid, N-(4-methoxybenzoyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-, mono(2-chlorophenyl) ester, 5'-(4-oxopentanoate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C35 H39 Cl N5 O13 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:198508

REFERENCE 2: 96:123207

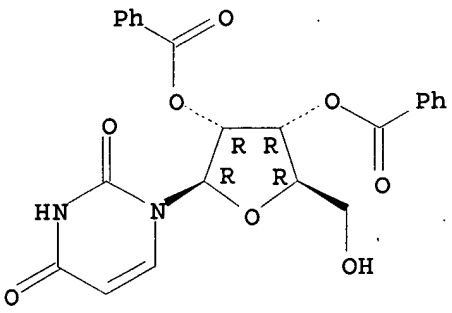
REFERENCE 3: 96:52609

REFERENCE 4: 90:168877

L48 ANSWER 232 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN **50408-20-3** REGISTRY
CN Uridine, 2',3'-dibenzoate (7CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN 2',3'-Di-O-benzoyluridine
FS STEREOSEARCH
DR 51296-13-0
MF C23 H20 N2 O8
LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHEM
(*File contains numerically searchable property data)
Other Sources: EINECS**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.

Searcher : Shears 308-4994



50 REFERENCES IN FILE CA (1967 TO DATE)
50 REFERENCES IN FILE CAPLUS (1967 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 131:170545

REFERENCE 2: 131:88118

REFERENCE 3: 129:122829

REFERENCE 4: 127:346602

REFERENCE 5: 126:8480

REFERENCE 6: 125:108579

REFERENCE 7: 117:171917

REFERENCE 8: 115:280465

REFERENCE 9: 115:114978

REFERENCE 10: 115:114975

FILE 'CAOLD' ENTERED AT 15:31:04 ON 31 JUL 2001

FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate

substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s l48

L49 3 L48

L49 ANSWER 1 OF 3 CAOLD COPYRIGHT 2001 ACS
AN CA61:16141h CAOLD
TI polynucleotides - (XXXIV) specific synthesis of C3'-C5'-linked ribooligonucleotides-protected derivs. of ribonucleosides and ribonucleoside 3'-phosphates-syntheses of diribonucleoside phosphates
AU Lohrmann, Rolf; Khorana, H. G.
IT 39113-96-7 42167-65-7 **50408-20-3** 54898-05-4 55378-65-9 55798-09-9 65360-02-3 69729-21-1 100658-96-6 102048-84-0 105232-92-6 105311-97-5 107329-18-0

L49 ANSWER 2 OF 3 CAOLD COPYRIGHT 2001 ACS
AN CA57:13860g CAOLD
TI polynucleotides - (XVI) specific synthesis of the C3'-C5' interribonucleotidic linkage-examn. of routes involving protected ribonucleosides and ribonucleoside 3'-phosphatases-synthesis of uridylyl-(3' .fwdarw. 5')-adenosine, uridylyl-(3' .fwdarw. 5')-cytidine, adenylyl-(3' .fwdarw. 5')-adenosine and related compds.
AU Rammler, David H.; Khorana, H. G.
IT 2382-66-3 2391-46-0 2415-43-2 3013-97-6 3256-24-4 4399-22-8 6554-15-0 6554-16-1 6554-17-2 13089-48-0 22886-36-8 23197-78-6 23624-64-8 34198-34-0 41092-41-5 **50408-20-3** 54898-05-4 **78462-56-3** **81246-76-6** **85315-91-9** 95371-74-7 95371-75-8 101014-60-2 101502-45-8 101796-32-1 105862-13-3 106169-64-6 106628-08-4 107526-15-8

L49 ANSWER 3 OF 3 CAOLD COPYRIGHT 2001 ACS
AN CA56:15800d CAOLD
TI polynucleotides - (XIV) specific synthesis of the C3'-C5 internucleotide linkage-syntheses of uridylyl-(3'.fwdarw.5')-uridine and uridylyl-(3'.fwdarw.5')-adenosine
AU Smith, Michael; Rammler, D. H.; Goldberg, I. H.; Khorana, H. G.

IT 2415-43-2 3256-24-4 4719-57-7 6403-16-3 25874-00-4
39113-96-7 51296-30-1 51296-31-2 **51600-12-5** 53166-52-2
81246-79-9 98090-28-9 99036-64-3 99036-65-4 103133-28-4
104948-44-9 105341-69-3 105862-12-2 105975-46-0 106096-22-4
106844-71-7 107542-47-2

FILE 'USPATFULL' ENTERED AT 15:31:42 ON 31 JUL 2001
L50 16 S L48

L50 ANSWER 1 OF 16 USPATFULL
ACCESSION NUMBER: 2001:71297 USPATFULL
TITLE: AC methods for the detection of nucleic acids
INVENTOR(S): Kayyem, Jon Faiz, Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., Pasadena, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6232062	B1	20010515
APPLICATION INFO.:	US 1997-911589		19970814 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1997-873597, filed on 12 Jun 1997

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-40155	19970307 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Whisenant, Ethan
LEGAL REPRESENTATIVE: Flehr Hohbach Test Albritton & Herbert LLP, Trecartin, Richard F., Silva, Robin M.
NUMBER OF CLAIMS: 30
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 56 Drawing Figure(s); 39 Drawing Page(s)
LINE COUNT: 4220
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 2 OF 16 USPATFULL
ACCESSION NUMBER: 2001:59606 USPATFULL

TITLE: Methods of detecting nucleic acids using electrodes

INVENTOR(S): Kayyem, Jon Faiz, Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Gozin, Michael, Pasadena, CA, United States
Yu, Changjun, Pasadena, CA, United States
Meade, Thomas J., Altadena, CA, United States

PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., Pasadena, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6221583	B1	20010424
APPLICATION INFO.:	US 1997-899510		19970724 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1996-743798, filed on 5 Nov 1996

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Marschel, Ardin H.
LEGAL REPRESENTATIVE: Flehr Hohbach Test Albritton & Herbert LLP, Silva, Esq., Robin M., Trecartin, Esq., Richard F.
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 8 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 3090
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 3 OF 16 USPATFULL
ACCESSION NUMBER: 2000:97959 USPATFULL
TITLE: Electrodes linked via conductive oligomers to nucleic acids

INVENTOR(S): Kayyem, Jon F., Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Gozin, Michael, Pasadena, CA, United States
Yu, Changjun, Pasadena, CA, United States
Meade, Thomas J., Altadena, CA, United States

PATENT ASSIGNEE(S): Clinical Micro Sensors, Pasadena, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6096273		20000801
APPLICATION INFO.:	US 1996-743798		19961105 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Marschel, Ardin H.
LEGAL REPRESENTATIVE: Flehr Hohbach Test Albritton & Herbert LLP, Trecartin, Richard F., Silva, Robin M.
NUMBER OF CLAIMS: 36
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 7 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT: 3182
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 4 OF 16 USPATFULL
ACCESSION NUMBER: 2000:92088 USPATFULL
TITLE: Methods of attaching conductive oligomers to electrodes
INVENTOR(S): Kayyem, Jon Faiz, Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Gozin, Michael, Beer Sheva, Israel
Yu, Changjun, Pasadena, CA, United States
Meade, Thomas J., Altadena, CA, United States
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., Pasadena, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6090933		20000718
APPLICATION INFO.:	US 1997-911085		19970814 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1997-873978, filed on 12 Jun 1997 which is a continuation of Ser. No. US 1996-743798, filed on 5 Nov 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Marschel, Ardin H.
LEGAL REPRESENTATIVE: Trecartin, Esq., Richard F., Silva, Esq., Robin M.Flehr Hohbach Test Albritton & Herbert LLP
NUMBER OF CLAIMS: 11

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 44 Drawing Figure(s); 39 Drawing Page(s)
LINE COUNT: 4152
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 5 OF 16 USPATFULL
ACCESSION NUMBER: 1999:160220 USPATFULL
TITLE: Polynucleotide purification method
INVENTOR(S): Fearon, Karen L., Lafayette, CA, United States
Boyd, Victoria Lee, San Carlos, CA, United States
PATENT ASSIGNEE(S): The Perkin-Elmer Corporation, Foster, CA, United States (U.S. corporation)
Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5998604		19991207
APPLICATION INFO.:	US 1997-929620		19970915 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Crane, L. Eric
LEGAL REPRESENTATIVE: Gorthey, LeeAnnDehlinger & Associates
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 7 Drawing Page(s)
LINE COUNT: 853
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method of purifying a hydrophobically substituted polynucleotide by reverse phase HPLC is described. The hydrophobic substituent may be removed from the polynucleotide under non-acidic conditions; the purification method is thus especially useful for acid sensitive polynucleotide analogs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 6 OF 16 USPATFULL
ACCESSION NUMBER: 1999:146783 USPATFULL
TITLE: Ribonucleoside-derivative and method for preparing the same

INVENTOR(S): Pitsch, Stefan, Regensorferstrasse 45, 8049 Zurich, Switzerland
Weiss, Patrick A., Luegislandstrasse 241, 8051 Zurich, Switzerland
Jenny, Luzi, Rotwandstrasse 65, 8004 Zurich, Switzerland

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5986084		19991116
APPLICATION INFO.:	US 1997-965780		19971107 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	CH 1997-1931	19970818

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Crane, L. Eric
LEGAL REPRESENTATIVE: Kubovcik & Kubovcik
NUMBER OF CLAIMS: 14
EXEMPLARY CLAIM: 1,12
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 583
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The ribonucleoside-derivatives serve for the synthesis of ribonucleic acids and comprise a triple substituted silyloxymethyl-group as a protection-group on the oxygen atom in 2'-position. The ribonucleoside-derivatives may be suitably protected on the nucleo-base and on the oxygen in 5'-position also. The new protection-groups in 2'-O-position are superior to conventional such protection-groups as they are not subject to isomerization and give higher coupling yields. The general formula of the ribonucleoside-derivative is: ##STR1## whereby R.sup.1 is a base of the purine- or pyrimidine-family or a derivative of such a base,

R.sup.2 is a proton or a substituted derivative of phosphonic acid,

R.sup.3 is a proton or a suitable protection-group,

R.sup.4, R.sup.5, R.sup.6 are advantageously three identical or different alkyl- or aryl-substituents which together comprise between 6 and 30 carbon atoms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 7 OF 16 USPATFULL

ACCESSION NUMBER: 1999:19354 USPATFULL
TITLE: Universal solid supports and methods for their use
INVENTOR(S): Reddy, M. Parameswara, Brea, CA, United States
Michael, Maged A., Placentia, CA, United States
Farooqui, Firdous, Brea, CA, United States
PATENT ASSIGNEE(S): Beckman Instruments, Inc., Fullerton, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5869696		19990209
APPLICATION INFO.:	US 1996-636113		19960422 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Raymond, Richard L.
LEGAL REPRESENTATIVE: May, William H., Harder, P. R.Fulbright & Jaworski
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
LINE COUNT: 1615
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Universal solid support oligonucleotide synthesis reagents, oligonucleotide synthesis processes, and reagents for cleaving oligonucleotides from solid supports are disclosed. Oligonucleotide synthesis reagents have the following general formula:

SS--R.sup.6 --O--R.sup.3 I

wherein SS is a solid support; R.sup.6 is ##STR1## where R.sup.5 is hydrogen or alkyl and R.sup.4 is a phosphate protecting group; and R.sup.3 is a ring moiety having vicinal groups --XR.sup.1 and --YR.sup.2 wherein each of X and Y is independently selected from the group consisting of O, S and NH and one of R.sup.1 and R.sup.2 is a blocking moiety and the other is hydrogen or a hydroxy protecting group. Oligonucleotide cleaving reagents include methylamine and/or ammonium hydroxide and trimethylamine.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 8 OF 16 USPATFULL
ACCESSION NUMBER: 1998:95618 USPATFULL
TITLE: 2' Modified Oligonucleotides
INVENTOR(S): Buhr, Chris A., Daly City, CA, United States
Matteucci, Mark, Burlingame, CA, United States
PATENT ASSIGNEE(S): Gilead Sciences, Inc., Foster City, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5792847		19980811
APPLICATION INFO.:	US 1995-467422		19950606 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-240508, filed on 10 May 1994, now patented, Pat. No. US 5466786 which is a continuation of Ser. No. US 1989-425857, filed on 24 Oct 1989

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Wilson, James O.
LEGAL REPRESENTATIVE: Muenchau, Daryl D.
NUMBER OF CLAIMS: 35
EXEMPLARY CLAIM: 1
LINE COUNT: 1055
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Oligomers which have substituents on the 2' position are resistant to oligonucleases and furthermore can be derivatized to deliver reagents or drugs, to carry label, or to provide other properties.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 9 OF 16 USPATFULL
ACCESSION NUMBER: 1998:58126 USPATFULL
TITLE: Method of making 2'-O-alkyl pyrimidine ribonucleosides
INVENTOR(S): Hodge, Richard P., Dracut, MA, United States
Sinha, Nanda D., Acton, MA, United States
PATENT ASSIGNEE(S): PerSeptive Biosystems, Inc., Framingham, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5756707		19980526
APPLICATION INFO.:	US 1994-355544		19941213 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Kight, John
ASSISTANT EXAMINER: Crane, L. Eric
LEGAL REPRESENTATIVE: Testa, Hurwitz & Thibeault, LLP
NUMBER OF CLAIMS: 20
EXEMPLARY CLAIM: 1,5,7
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1179
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Method for production of 2'-O-derivatized uridine and cytosine RNA synthons comprising derivatizing the 2'-hydroxyl group of a

partially protected cytosine ribonucleoside to preferentially produce a partially protected 2'-O-derivatized nucleoside, which is then either (1) reacted at the 3'-hydroxyl group to produce a 2'-O-derivatized cytosine RNA synthon, or (2) reacted with a hydroxide source to produce a uridine nucleobase by deamination, thereby producing a partially protected 2'-O-derivatized uridine ribonucleoside which can be reacted at its 3'-hydroxyl group to produce a uridine RNA synthon.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 10 OF 16 USPATFULL

ACCESSION NUMBER:	1998:45326 USPATFULL
TITLE:	Propargyl modified nucleosides and nucleotides
INVENTOR(S):	Srivastava, Suresh C., Burlington, MA, United States Raza, Syed Kazim, Waltham, MA, United States
PATENT ASSIGNEE(S):	ChemGenes Corporation, Waltham, MA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5744595		19980428
APPLICATION INFO.:	US 1995-520968		19950725 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-176481, filed on 30 Dec 1993, now abandoned		

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Kight, Joe
ASSISTANT EXAMINER:	Crane, L. Eric
LEGAL REPRESENTATIVE:	Hale and Dorr LLP
NUMBER OF CLAIMS:	8
EXEMPLARY CLAIM:	1,3,5,7
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT:	804

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes a novel 2'-O-alkylation reaction to produce a novel series of nucleosides carrying the 2'-O-propargyl group, using propargyl bromide, dibutyl tin oxide and tetrabutyl ammonium bromide. The procedure involves novel techniques for regioselective introduction of 2'-/3'-O-propargyl group directly on the 5'-DMT-N-protected- nucleosides using dibutyl tin oxide as a mild base in conjunction with a phase transfer catalyst, tetrabutyl ammonium bromide. The reaction process has many significant features and leads to isomeric ratios in favor of the 2'-regio isomer. This allows the synthesis of the corresponding phosphoramidites of high purity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 11 OF 16 USPATFULL

ACCESSION NUMBER:	95:101319 USPATFULL
TITLE:	2'modified nucleoside and nucleotide compounds
INVENTOR(S):	Buhr, Chris A., Daly City, CA, United States Matteucci, Mark, Burlingame, CA, United States
PATENT ASSIGNEE(S):	Gilead Sciences, Foster City, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5466786		19951114
APPLICATION INFO.:	US 1994-240508		19940510 (8)

RELATED APPLN. INFO.:	Continuation of Ser. No. US 1989-425857, filed on 24 Oct 1989, now abandoned
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Robinson, Douglas W.
ASSISTANT EXAMINER:	Wilson, James O.
LEGAL REPRESENTATIVE:	Morrison & Foerster
NUMBER OF CLAIMS:	8
EXEMPLARY CLAIM:	1
LINE COUNT:	872

AB Oligomers which have substituents on the 2' position are resistant to oligonucleases and furthermore can be derivatized to deliver reagents or drugs, to carry label, or to provide other properties.

L50 ANSWER 12 OF 16 USPATFULL

ACCESSION NUMBER:	95:60471 USPATFULL
TITLE:	Oligonucleotides having selectably cleavable and/or abasic sites
INVENTOR(S):	Urdea, Michael S., Alamo, CA, United States Horn, Thomas, Berkeley, CA, United States
PATENT ASSIGNEE(S):	Chiron Corporation, Emeryville, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5430136		19950704
APPLICATION INFO.:	US 1990-559961		19900727 (7)

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1989-398711, filed on 25 Aug 1989, now patented, Pat. No. US 5258506, issued on 2 Jun 1992 which is a continuation-in-part of Ser. No. US 1988-251152, filed on 29 Sep 1988, now patented, Pat. No. US 5118605 which is a continuation-in-part of Ser.

No. US 1984-661508, filed on 14 Oct 1984, now patented, Pat. No. US 4775619, issued on 4 Oct 1988
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Robinson, Douglas W.
ASSISTANT EXAMINER: Kunz, Gary L.
LEGAL REPRESENTATIVE: Goldman, Kenneth M.Reed & Robins, Blackburn, Robert P.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
LINE COUNT: 763
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Polynucleotides containing abasic, cleavable sites are provided. These polynucleotides are useful in a variety of biochemical and chemical contexts, particularly in solid phase nucleic acid hybridization assays because a captured probe can be released from the support. The polynucleotides have the structure ##STR1## where R is selected from the group consisting of 2-nitrobenzyl, 4-penten-1-yl, ##STR2## where R', R.sub.i and R.sub.j are as defined herein. One of the preferred embodiments is a polynucleotide where R is ##STR3##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 13 OF 16 USPATFULL
ACCESSION NUMBER: 94:102329 USPATFULL
TITLE: Oligonucleotides with selectably cleavable and/or abasic sites
INVENTOR(S): Urdea, Michael S., Alamo, CA, United States
Horn, Thomas, Berkeley, CA, United States
PATENT ASSIGNEE(S): Chiron Corporation, Emeryville, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5367066		19941122
APPLICATION INFO.:	US 1991-736445		19910724 (7)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1990-559961, filed on 27 Jul 1990 which is a continuation-in-part of Ser. No. US 1989-398711, filed on 25 Aug 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-251152, filed on 29 Sep 1988, now patented, Pat. No. US 5118605, issued on 2 Jun 1992 which is a continuation-in-part of Ser. No. US 1984-661508, filed on 16 Oct 1984, now patented, Pat. No. US 4775619, issued on 4 Oct 1988

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Brown, Johnnie R.
ASSISTANT EXAMINER: Kunz, Gary L.
LEGAL REPRESENTATIVE: Reed & Robins
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
LINE COUNT: 960
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A modified polynucleotide containing at least one cleavable or abasic site as shown below. ##STR1## DNA.sub.1 is a first segment of DNA; DNA.sub.2 is a second segment of DNA; and R.sub.m is C.sub.1 to C.sub.16 alkylene or an oxytheylene oligomer --(CH.sub.2 CH.sub.2 O).sub.z -- where z is an interger in the range of 1 to 16 inclusive, and R.sub.n is selected from the group consisting of ##STR2## Such polynucleotides are useful in solid phase hybridizations because they permit the release of a label from the solid support after the hybridization reaction.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 14 OF 16 USPATFULL
ACCESSION NUMBER: 94:7794 USPATFULL
TITLE: Process and compounds for RNA synthesis
INVENTOR(S): Vinayak, Ravi S., Foster City, CA, United States
PATENT ASSIGNEE(S): Applied Biosystems, Inc., Foster City, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5281701		19940125	
APPLICATION INFO.:	US 1991-729492		19910712	(7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Brown, Johnnie R.
ASSISTANT EXAMINER: Crane, L. Eric
LEGAL REPRESENTATIVE: Macevicz, Stephen C.
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1,9
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 469
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method and compositions are provided for synthesizing polynucleotides wherein the exocyclic amino groups of 5'-O-protected-2'O-alkylsilyl-adenosine phosphoramidite and 5'-O-protected-2'-O-alkylsilylguanosine phosphoramidite monomers are protected with dialkylformamidine. In a preferred embodiment, the ribonucleoside phosphoramidite monomers are activated with

ethylthiotetrazole.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 15 OF 16 USPATFULL

ACCESSION NUMBER:	92:61999 USPATFULL
TITLE:	Nucleoside-3'-phosphites for synthesis of oligonucleotides
INVENTOR(S):	Takaku, Hiroshi, Funabashi, Japan
PATENT ASSIGNEE(S):	Central Glass Company, Limited, Ube, Japan (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5134228		19920728	
APPLICATION INFO.:	US 1989-412990		19890926	(7)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1988-244748	19880929

DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Rollins, John W.
ASSISTANT EXAMINER:	Kunz, Gary L.
LEGAL REPRESENTATIVE:	Fleit, Jacobson, Cohn, Price, Holman & Stern
NUMBER OF CLAIMS:	6
EXEMPLARY CLAIM:	1
LINE COUNT:	288

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides novel phosphites represented by the general formula (I) and nucleoside-3'-phosphite derivatives represented by the general formula (III).

(RO).sub.3 P (I)

wherein R is, for example, a fluoroalkyl group or a substituted phenyl group. ##STR1## wherein R is the same as in (I), R" is a protecting group such as dimethoxytrityl group, and B represents a base, e.g. thymine.

A phosphite (I) is prepared by reacting an alcohol ROH with PCl.sub.3 in the presence of a tertiary amine, and a nucleoside-3'-phosphite (III) is prepared by reacting a phosphite (I) with a nucleoside in a solvent in the presence of a tertiary amine. Phosphites (I) are very stable. Using a nucleoside-3'-phosphite (III) an oligonucleotide can be synthesized on a solid support by a simplified process.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 16 OF 16 USPATFULL
ACCESSION NUMBER: 90:73578 USPATFULL
TITLE: Cholesteryl modified oligonucleotides
INVENTOR(S): Letsinger, Robert L., Wilmette, IL, United States
PATENT ASSIGNEE(S): Northwestern University, Evanston, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4958013		19900918
APPLICATION INFO.:	US 1989-362200		19890606 (7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Rollins, John W.
ASSISTANT EXAMINER: Wilson, James O.
LEGAL REPRESENTATIVE: Tilton, Fallon, Lungmus & Chestnut
NUMBER OF CLAIMS: 3
EXEMPLARY CLAIM: 1
LINE COUNT: 580
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Oligonucleotides modified at their backbones by the attachment of cholesteryl are described. The modified oligonucleotides anchor in the cell membrane to serve as a probe and to provide therapeutic activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

(FILE 'CAPLUS, WPIDS, USPATFULL, JICST-EPLUS, JAPIO' ENTERED AT 15:33:15 ON 31 JUL 2001)

L51	352	S	BARANOVA L?/AU
L52	36	S	CHATELAIN F?/AU
L53	94	S	KUMAREV V?/AU
L54	2	S	L51 AND L52 AND L53
L55	27	S	L51 AND (L52 OR L53)
L56	5	S	L52 AND L53
L57	450	S	L51 OR L52 OR L53
L58	47	S	L57 AND L40
L59	5	S	L58 AND SOLID SUPPORT
L60	31	S	L54 OR L55 OR L56 OR L59
L61	26	DUP REM	L60 (5 DUPLICATES REMOVED)

- Author(s)

L61 ANSWER 1 OF 26 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 2001-290733 [30] WPIDS
DOC. NO. CPI: C2001-089141
TITLE: Apparatus and method for performing a large number of chemical and biological reactions by bringing

two arrays into close apposition and allowing reactants on the surfaces of the two arrays to come into contact .

DERWENT CLASS: B04 D16
INVENTOR(S): BERNINGER, M; BRENNAN, T M; **CHATELAIN, F**
PATENT ASSIGNEE(S): (PROT-N) PROTOGENE LAB INC
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001027327	A2	20010419	(200130)*	EN	91

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001027327	A2	WO 2000-US27872	20001006

PRIORITY APPLN. INFO: US 1999-158315 19991008
AN 2001-290733 [30] WPIDS
AB WO 200127327 A UPAB: 20010603
NOVELTY - A novel system for performing reactions, comprises bringing two supports into close apposition to allow the reactants immobilized on the supports to come into close contact.

DETAILED DESCRIPTION - A system for performing reactions, comprises a first **solid support** with a reactant of each reaction immobilized on to it, and a second **solid support** either providing a second reactant confined to a specific area on the surface, or a chemical/mechanical separation of the reactions, where the first and second **solid supports** are assembled to provide an environment for performing the reactions in parallel.

INDEPENDENT CLAIMS are also included for the following:

(1) a **solid support** for performing polynucleotide amplification reactions where a releasable primer for each amplification reaction is immobilized on the surface of the **solid support**;

(2) a system for amplifying target nucleic acids, comprising:

(a) a first **solid support** where the surface

of the support comprises a number of derivatized areas, a forward primer/primer for each target nucleic acid a sequence complementary to the forward primer/primer is immobilized on a derivatized area of the support, and a reverse primer/probe for each region of the target nucleic acid or a sequence complementary to the reverse primer or a subsequence of each target nucleic acid, is immobilized on an other derivatized area; and

(b) a second **solid support** comprises a number of reaction wells on its surface, each well corresponding to the forward and reverse primers/primer and the probe for each target nucleic acid;

(3) a method (M1) for performing a large number of reactions using the **solid support** system;

(4) a method (M2) of performing polynucleotide amplification reactions and capturing the amplification products, comprising:

(a) obtaining a first and second **solid support** where the immobilized groups (containing a releasable site and a primer) are confined to specific areas of the first support and the reactants of the polynucleotide amplification reactions are confined to specific areas on the second **solid support**;

(b) assembling the first and second supports, so that the reactants on the second support are in contact with the immobilized groups on the first support;

(c) releasing the primers;

(d) generating amplification **products** of the **polynucleotide** amplification reactions; and

(e) capturing the amplified **products** by immobilized **polynucleotide** probes on either the first or second **solid support** through hybridization;

(5) a method (M3) for detecting **polynucleotide** sequence variations, quantitating amplified **products**, and detecting **polynucleotide** sequence variations by a polynucleotide modifying enzyme, comprises following the 5 steps of (M2), but with an additional sixth step, either:

(a) detecting polynucleotide sequence variations using hybridization complexes;

(b) quantitating amplified products; or

(c) detecting polynucleotide sequence variations by a polynucleotide modifying enzyme; and

(6) a method (M4) for amplifying a target **nucleic** acid, capturing the amplified **product** and detecting a **polynucleotide** sequence variation in the amplified **product**, comprising:

(a) obtaining a first **solid support** where:

(i) the surface of the first array comprises a first, second, third and fourth areas;

(ii) a first chemical group, comprising a releasable forward

primer specific for the region of the target nucleic acid, is immobilized on the first area;

(iii) a second chemical group, comprising a releasable reverse primer specific for the region of target nucleic acid, is immobilized on the second area;

(iv) a first polynucleotide probe, comprising a subsequence complementary to one variant of the polynucleotide variation, is immobilized on the third area, the subsequence containing at least one interrogation position complementary to a corresponding nucleotide in the variant; and

(v) a second polynucleotide probe is immobilized to the fourth area, the second probe differing from the first probe by at least one nucleotide;

(b) obtaining a second **solid support** where the surface of the **solid support** comprises a reaction well and a mixture of reactants comprising a DNA polymerase, the target nucleic acid and deoxynucleotides are placed within the reaction well;

(c) assembling the first and second **solid support**, where the mixture of reactants are in contact with the four areas on the first support;

(d) releasing the forward and reverse primers;

(e) generating the amplified **product** for the target **nucleic** acid;

(f) capturing the amplified product by the first or second polynucleotide probes through hybridization;

(g) extending one or more hybridization complexes;

(h) disassembling the two supports;

(i) washing the first support;

(j) comparing the relative binding of the two probes on the first support; and

(k) identifying the polynucleotide variation in the amplified/extended product.

USE - The methods and apparatus are useful for performing a large number of chemical and biological reactions, especially polynucleotide amplification reactions and the detection of sequence variations (claimed), expression levels and their functions.

ADVANTAGE - The method is capable of generating large amounts of data or products per unit time by carrying out large numbers of reactions in parallel, the process is also amenable to full automation.

Dwg.0/21

L61 ANSWER 2 OF 26 USPATFULL
ACCESSION NUMBER: 1999:19303 USPATFULL
TITLE: Process for **preparing** **polynucleotides** on a **solid** **support** in a tightly packed bed

INVENTOR(S): **Chatelain, Fran.cedilla.ois**, Paris, France
Kumarev, Viktor, Villemonble, France
PATENT ASSIGNEE(S): GENSET, Paris, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5869643		19990209
APPLICATION INFO.:	US 1994-358556		19941214 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1993-15164	19931216

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Kunz, Gary L.
LEGAL REPRESENTATIVE: Jacobson, Price, Holman & Stern, PLLC
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1258
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for **preparing polynucleotides** on a **solid support** in a reactor in the form of a column through which solutions of reagents and/or solvents are circulated, wherein the solid phase constituting said **solid support** is immobilized in said reactor, and said solutions migrate in the column and through the solid phase according to a frontal progression, such that the successive solutions from each step of a synthesis cycle do not mix at all, or very little.

The subject of the present invention is also a reactor consisting of a column completely filled with particles of porous materials constituting the **solid support**, and a synthesis device including such a reactor.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L61 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:109815 CAPLUS
DOCUMENT NUMBER: 124:195209

TITLE: Effect of sequences, flanking the -10 region of spc promoter homologs as viewed from the starting point, on interactions with Escherichia coli RNA polymerase

AUTHOR(S): Savinkova, L. K.; Sokolenko, A. A.; Kel, A. E.; Tulokhonov, I. I.; **Kumarev, V. P.**;

Baranova, L. V.; Rar, V. A.; Salganik, R. I.
CORPORATE SOURCE: Novosib. Inst. Tsitol. Genet., 630090, Russia
SOURCE: Mol. Biol. (Moscow) (1996), 30(1), 188-91
CODEN: MOBIBO; ISSN: 0026-8984
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB The effects of nucleotide sequences flanking the -10 region of promoter homologs of Escherichia coli from the starting point on the interaction with E. coli RNA polymerase were studied. It was shown that the affinity to RNA polymerase is detd. by the consensus sequence of the -10 region of spc-promoter homologs. Replacement with the original TATAAT sequence, belonging to the non-transcribed DNA strand, for the complementary sequence ATATTA decreased the affinity to RNA polymerase two-fold.

L61 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 1
ACCESSION NUMBER: 1995:943432 CAPLUS
DOCUMENT NUMBER: 124:9332
TITLE: Merrifield synthesis of oligoribo- and oligodeoxyribonucleotides
INVENTOR(S): **Chatelain, Francois; Kumarev, Viktor**
PATENT ASSIGNEE(S): Genset, Fr.
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 658566	A1	19950621	EP 1994-402879	19941214
EP 658566	B1	19970702		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
FR 2714061	A1	19950623	FR 1993-15164	19931216
FR 2714061	B1	19960308		
AT 154936	E	19970715	AT 1994-402879	19941214
ES 2106479	T3	19971101	ES 1994-402879	19941214
US 5869643	A	19990209	US 1994-358556	19941214
CA 2138240	AA	19950617	CA 1994-2138240	19941215
AU 9480432	A1	19950622	AU 1994-80432	19941215
AU 693487	B2	19980702		
JP 08239397	A2	19960917	JP 1994-313790	19941216

PRIORITY APPLN. INFO.: FR 1993-15164 A 19931216
AB Merrifield synthesis of oligoribo- and oligodeoxyribonucleotides is

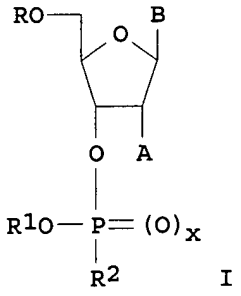
reported. Description of the synthesis app. is also reported.

L61 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:777666 CAPLUS
DOCUMENT NUMBER: 123:199304
TITLE: Merrifield **synthesis** of **nucleic** acids
INVENTOR(S): **Baranova, Ludmilla; Chatelain, Francois; Kumarev, Viktor**
PATENT ASSIGNEE(S): Genset, Fr.
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9501987	A1	19950119	WO 1994-FR842	19940707
W: AU, CA, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2707296	A1	19950113	FR 1993-8498	19930709
FR 2707296	B1	19950929		
AU 9472309	A1	19950206	AU 1994-72309	19940707
AU 696421	B2	19980910		
EP 707592	A1	19960424	EP 1994-921699	19940707
EP 707592	B1	19970903		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08512306	T2	19961224	JP 1994-503866	19940707
AT 157668	E	19970915	AT 1994-921699	19940707
ES 2109005	T3	19980101	ES 1994-921699	19940707

PRIORITY APPLN. INFO.: FR 1993-8498 A 19930709
WO 1994-FR842 W 19940707

OTHER SOURCE(S): MARPAT 123:199304
GI



AB Process for **synthesizing** solid phase **nucleic** acids using universal polymer support for intermediate nucleotides, e.g. I (A = H, OH, protected OH; B = nucleobase; R = trityl derivs.; R1 = mineral or org. polymer support; R2 = H, x = 1; R2 = halo, alkoxy, x= 0) characterized in that a mineral or org. polymer, bound by a bivalent hydrocarbon radical to an epoxy or glycol-type group, is used as a **solid support**, epoxy or glycol-type group comprising two adjacent satd. carbon atoms on which an OH and a nucleophilic group are substituted. The present invention also pertains to compds. contg. an epoxy or glycol-type group as defined above, useful for example as a **solid support** in a process for **solid support nucleic** acid **synthesis**. Thus, Merrifield **synthesis** of **oligodeoxyribonucleotides** AGTC and d(AGTC) is reported.

L61 ANSWER 6 OF 26 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
ACCESSION NUMBER: 1995-054238 [08] WPIDS
DOC. NO. CPI: C1995-024620
TITLE: Solid-phase **nucleic** acid **synthesis** - using organic or inorganic polymer support functionalised with epoxide or glycol-type gps..
DERWENT CLASS: A96 B04 D16
INVENTOR(S): **BARANOVA, L; CHATELAIN, F; KUMAREV, V**
PATENT ASSIGNEE(S): (GEST) GENSET
COUNTRY COUNT: 23
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
FR 2707296	A1	19950113	(199508)*		29
WO 9501987	A1	19950119	(199509)		

RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
W: AU CA JP KR US

AU 9472309	A	19950206 (199518)	
EP 707592	A1	19960424 (199621)	FR
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE			
JP 08512306	W	19961224 (199710)	33
EP 707592	B1	19970903 (199740)	FR 27
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE			
DE 69405396	E	19971009 (199746)	
ES 2109005	T3	19980101 (199809)	
AU 696421	B	19980910 (199848)	
TW 397839	A	20000711 (200106)	

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2707296	A1	FR 1993-8498	19930709
WO 9501987	A1	WO 1994-FR842	19940707
AU 9472309	A	AU 1994-72309	19940707
EP 707592	A1	EP 1994-921699	19940707
		WO 1994-FR842	19940707
JP 08512306	W	WO 1994-FR842	19940707
		JP 1995-503866	19940707
EP 707592	B1	EP 1994-921699	19940707
		WO 1994-FR842	19940707
DE 69405396	E	DE 1994-605396	19940707
		EP 1994-921699	19940707
		WO 1994-FR842	19940707
ES 2109005	T3	EP 1994-921699	19940707
AU 696421	B	AU 1994-72309	19940707
TW 397839	A	TW 1994-110699	19941118

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9472309	A	Based on	WO 9501987
EP 707592	A1	Based on	WO 9501987
JP 08512306	W	Based on	WO 9501987
EP 707592	B1	Based on	WO 9501987
DE 69405396	E	Based on	EP 707592
		Based on	WO 9501987
ES 2109005	T3	Based on	EP 707592
AU 696421	B	Previous Publ.	AU 9472309
		Based on	WO 9501987

PRIORITY APPLN. INFO: FR 1993-8498 19930709
AN 1995-054238 [08] WPIDS
AB FR 2707296 A UPAB: 19970723

Solid-phase **nucleic** acid **synthesis** is effected using a **solid support** comprising an organic or inorganic polymer (P1) linked via a divalent hydrocarbon gp. to an epoxide gp. or a glycol-type gp. comprising an OH gp. and a nucleophilic gp. (Nu) on adjacent satd. C. atoms. Also claimed are supports of formula R'1-C(Nu)(R1)-C(OH)(R2)-R'2 (I), (II) and R'1-C(R''1)(OOCR1)-C(OH)(R2)-R'2 (III): one of R1, R'1, R''1, R2 and R'2 = P1 or a hydrocarbon gp. substd. by P1, the rest being selected from H and inert gps. Also claimed are (I)-(III) where R1+R2 or R'1+R'2 formes a ring (esp. heterocyclic) substd. by P1. Also claimed are (I) where R1+R2 or R'1+R2 forms a ribose ring and Nu is a protected 2'-OH gp..

ADVANTAGE - The supports are 'universal', i.e. they can be used whatever the nature of the first nucleotide in the RNA or **DNA** to be **synthesised** and whatever the type of substitution on the 3' or 5' phosphate gp. in the monomers used for synthesis, depending on whether synthesis is effected in the 5'-3' or 3'-5' direction.

Dwg.0/0

ABEQ EP 707592 B UPAB: 19971006

Process for the **preparation** of a **nucleic** acid by **synthesis** on a **solid support** characterised in that an inorganic or organic polymer is used as **solid support**, which polymer is connected via a divalent hydrocarbon radical to an epoxide group or a group of the glycol type, the latter group consisting of two adjacent saturated carbons on which an OH group and a nucleophilic group are respectively substituted.

Dwg.0/0

L61 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1995:407118 CAPLUS

DOCUMENT NUMBER: 123:2531

TITLE: The immediate vicinity of mouse metallothionein-I gene contains two sites conferring glucocorticoid inducibility to the heterologous promoter. [Erratum to document cited in CA122:2601]

AUTHOR(S): Plisov, Sergey Y.; Nichiporenko, Marina G.; Shkapenko, Alla L.; **Kumarev, Victor P.**; **Baranova, Ludmila V.**; Merkulova, Tatyana I.

CORPORATE SOURCE: Institute of Cytology and Genetics, Siberian Division of the Russian Academy of Sciences, Novosibirsk, 6300890, Russia

SOURCE: FEBS Lett. (1995), 358(1), 104
CODEN: FEBLAL; ISSN: 0014-5793

DOCUMENT TYPE: Journal

LANGUAGE: English
AB The errors were not reflected in the abstr. but were reflected in the structures of the indexed sequence entries.

L61 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:119944 CAPLUS
DOCUMENT NUMBER: 122:2601
TITLE: The immediate vicinity of mouse metallothionein-I gene contains two sites conferring glucocorticoid inducibility to the heterologous promoter
AUTHOR(S): Plisov, Sergey Y.; Nichiporenko, Marina G.; Shkapenko, Alla L.; **Kumarev, Victor P.**; **Baranova, Ludmila V.**; Merkulova, Tatyana I.
CORPORATE SOURCE: Institute of Cytology and Genetics, Siberian Division of the Russian Academy of Sciences, Lavrentyev 10, Novosibirsk, 6300890, Russia
SOURCE: FEBS Lett. (1994), 352(3), 339-41
CODEN: FEBLAL; ISSN: 0014-5793
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Glucocorticoid responsive elements (GREs) located - 252 to - 209 bp upstream and + 1011 to + 1054 bp downstream of the transcription initiation site of the mouse metallothionein-I (mMT-I) gene were identified in transient transfection expts.. However, the promoter region of the mMT-I gene (- 330 to + 70 bp) was found to provide low, if any, glucocorticoid induction of the linked CAT gene, while showing strong cadmium regulation, comparable with the in vivo level.

L61 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1993:626351 CAPLUS
DOCUMENT NUMBER: 119:226351
TITLE: Synthesis of oligo(poly)nucleotides and apparatus for this
INVENTOR(S): **Kumarev, Viktor P.**; Belikov, Sergej I.; Kobzev, Viktor F.; Kuznedelov, Konstantin D.; **Baranova, Lidiya V.**; Sredin, Yurij G.
PATENT ASSIGNEE(S): Kooperativ "bios", USSR
SOURCE: U.S.S.R. From: Izobreteniya 1992, (41), 89-90.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1773916	A1	19921107	SU 1990-4875257	19901018

AB Oligo(poly)nucleotides are prepd. by a shorter, more efficient synthesis on a solid-phase, dispersed support by rinsing the support having a bound nucleoside, mixing the 5'-O-protected 3'-H-phosphonate nucleotide component with a dehydrating agent, preferably 0.9-1.5 equiv acid chlorides per equiv nucleoside-3'-H-phosphonate over time tmix = 0.01-1.0 s, and condensation with the 5'-OH group of the bound nucleoside over time tcond = 0.5-2.5 s, followed by removal of the 5'-O-protecting group, and repetition of these operations 2-20 times until an oligo(poly)nucleotide with the desired no. of monomeric units is obtained, followed by oxidn. of the oligo(poly)nucleotide-H-phosphonate, and cleavage of the oligo(poly)nucleotide from the support; reaction temp. at all stages of the synthesis T = 30-65.degree.. A flow-reactor-type app. having a heating block for this synthesis is also claimed.

L61 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:546514 CAPLUS
DOCUMENT NUMBER: 113:146514
TITLE: Identification of the glucocorticoid receptor binding site at the 5'-flanking region of the mouse metallotionein 1 gene: effect of base substitution on binding efficiency
AUTHOR(S): Plisov, S. Yu.; Merkulova, T. I.; **Baranova, L. V.**; **Kumarev, V. P.**; Merkulov, V. M.; Sokolenko, A. A.; Kaikina, I. I.; Salganik, R. I.
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, 630090, USSR
SOURCE: Mol. Biol. (Moscow) (1990), 24(4), 1109-16
CODEN: MOBIBO; ISSN: 0026-8984
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Interaction of highly purified glucocorticoid receptor complex (GIRC) with a synthetic DNA-fragment of mouse metallothionein 1 gene promoter (-209 to -252 bp (MTwt) was investigated. By means of nitrocellulose filter binding assay this fragment was shown to contain a specific GIRC-binding site. To analyze the fine structure of the site, 2 variants of this DNA-fragment were synthesized and used in gel retardation assay. GIRC specific binding was shown to be retained throughout the interaction with the fragment in which all base pairs in the generally accepted GIRC-binding site consensus G--ACA---TGTTCT were substituted by transitions mutation, although the interaction was weaker than the GIRC-binding with MTwt, where the consensus was in its natural environment. Complete loss of the GIRC-binding ability was obsd. when five C/G pairs were substituted

by A/T. Two of the C/G pairs were in the consensus. Comparison of the data obtained with results of computer anal. suggests that the consensus the core of the GIRC-binding site, and is flanked with addnl. elements that interact with GIRC.

L61 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1990:94090 CAPLUS
DOCUMENT NUMBER: 112:94090
TITLE: Energetics of the B-H transition in supercoiled DNA carrying d(CT)x.cntdot.d(AG)x and d(C)n.cntdot.d(G)n inserts
AUTHOR(S): Lyamichev, V. I.; Mirkin, S. M.; **Kumarev, V. P.**; **Baranova, L. V.**; Vologodskii, A. V.; Frank-Kamenetskii, M. D.
CORPORATE SOURCE: Inst. Mol. Genet., Moscow, 123182, USSR
SOURCE: Nucleic Acids Res. (1989), 17(22), 9417-23
CODEN: NARHAD; ISSN: 0305-1048
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The B-H transition was studied in d(AG)x inserts of varying length under superhelical stress. The new data and previously published results for the d(G)31 insert are treated within a phenomenol. model of the B-H transition, making it possible to obtain, for the first time, the energy parameters of the B-H transition in the d(AG)x and d(G)n sequences.

L61 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1989:131311 CAPLUS
DOCUMENT NUMBER: 110:131311
TITLE: Localization of a lysine residue near the site initiating substrate binding of T7 bacteriophage RNA polymerase
AUTHOR(S): Maksimova, T. G.; Mustaev, A. A.; Zaichikov, E. F.; **Baranova, L. V.**; **Kumarev, V. P.**; Lukhtanov, E. A.
CORPORATE SOURCE: Limnol. Inst., Irkutsk, USSR
SOURCE: Bioorg. Khim. (1989), 15(1), 18-23
CODEN: BIKHD7; ISSN: 0132-3423
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A highly selective affinity label was introduced into the phage T7 RNA polymerase by means of GMP ortho-formylphenyl ester and [.alpha.-32P]UTP near the enzyme's active site, which was located by using the limited cleavage technique. Anal. of gel-electrophoretic patterns of the cleavage products led to the conclusion that lysine-631 is the target of labeling. The region near this residue has a high degree of sequence homol. with regions of RNA polymerases from phages T3 and SP6 and yeast mitochondria.

L61 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1988:570776 CAPLUS
DOCUMENT NUMBER: 109:170776
TITLE: Rapid automatic synthesis of deoxypolynucleotides
AUTHOR(S): **Kumarev, V. P.; Baranova, L. V.**; Kobzev, V. F.; Kuznedelov, K. D.; Sredin, Yu. G.
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR
SOURCE: Bioorg. Khim. (1988), 14(2), 276-8
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A rapid automatic synthesis of deoxypolynucleotides from 5'-O-(dimethoxytritylnucleoside 3'-H phosphonates in an improved ''gene 2'' synthesizer was developed. The synthetic scheme includes detritylation with trifluoroacetic acid in CH2Cl2, washing with MeCN instead of a pyridine-MeCN mixt. and one-step oxidn. with iodine-AcOH in pyridine instead of two-step oxidn. in the presence of amines. More then 160 polynucleotides contg. 8 to 83 monomers were prepd. for various biochem. goals including synthesis of promoter 9(260 bp) of the mouse metallothionein I gene and of promoter and leader sequence (120 bp) of E. coli alk. phosphatase.

L61 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:576390 CAPLUS
DOCUMENT NUMBER: 107:176390
TITLE: Thiophosphate analog of nucleic acids. VI. The synthesis and properties of deoxynucleotides containing 3'-phosphothiomethyl group for phosphotriester synthesis of oligodeoxynucleotides
AUTHOR(S): **Kumarev, V. P.; Baranova, L. V.**; Bogachev, V. S.; Lebedev, A. V.; Obukhova, L. V.
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR
SOURCE: Bioorg. Khim. (1986), 12(10), 1348-58
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A modified phosphotriester method for synthesis of oligodeoxyribonucleotides involving the synthesis of fully protected deoxynucleotides, 5'-dimethoxytrityl-N-acylnucleoside-3'-(.beta.-cyanoethyl)-3'-(S-methyl)thiophosphates, that are subsequently used for prepn. of appropriate nucleoside and nucleotide components was developed. The latter are utilized in a condensation reaction in pyridine in the presence of the usual condensing agents. The

proposed modification makes possible the synthesis of olidodeoxyribonucleotides in soln. starting from mono-, di-, and trimers and requires no chromatog. at the intermediate stages. The yield of final products varies from 5-25%. The modified method was used to prep. oligodeoxynucleotides of 8-18 base-long components that were subsequently used for enzymic synthesis, cloning, and expression of human angiotensin I gene and human fibroblast interferon gene fragment.

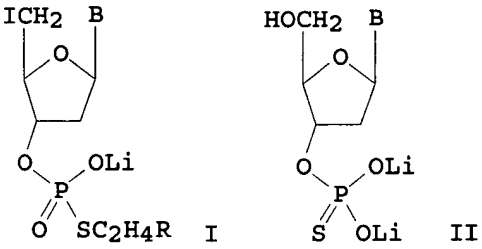
L61 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1987:1205 CAPLUS
DOCUMENT NUMBER: 106:1205
TITLE: Chemical and enzymic synthesis and cloning of a biologically active gene for human .beta.-interferon
AUTHOR(S): **Kumarev, V. P.**; Rivkin, M. I.; Amirkhanov, N. V.; **Baranova, L. V.**; Bogachev, V. S.; Kobets, M. L.; Oshevskii, S. I.; Obukhova, L. V.; Rybakov, V. N.; et al.
CORPORATE SOURCE: Inst. Tsitol. Genet., Novosibirsk, USSR
SOURCE: Dokl. Akad. Nauk SSSR (1986), 290(1), 244-9 [Biochem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Chem. synthesized oligodeoxyribonucleotide fragments were enzymically ligated and cloned in Escherichia coli to produce a biol. active synthetic human .beta.-interferon gene. The oligonucleotides were synthesized by a modified version of the triester method, in which thiomethyl groups were utilized in place of aryl groups to protect the internucleotide phosphate resides. This modification increased the condensation product yield, reduced the variety of starting material required, and permitted the synthesis of oligonucleotides contg .gtoreq.12 trinucleotide blocks without electrophoretic purifn. of intermediate products. The synthetic gene sequence was designed to allow maximal accommodation to the bacterial host and to give unique restriction sites to facilitate the manipulation of sep. portions of the gene. The gene was cloned behind the lac operon promoter of plasmid pSK lac95-1. After induction of the lac operon, crude exts. of the induced cells with the recombinant plasmid had antiviral activity in human fibroblasts.

L61 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:405976 CAPLUS
DOCUMENT NUMBER: 99:5976
TITLE: Iodo derivatives of desoxythionucleotides
INVENTOR(S): **Kumarev, V. P.**; Bogachev, V. S.;

Kobzev, V. F.; **Baranova, L. V.**;
Kobzeva, N. S.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1983, (2), 104.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 988824	A1	19830115	SU 1979-2869154	19791101

GI



I II

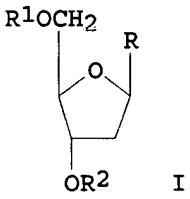
AB I (B = thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine residue, R = CN, H2NCO, or Ph2NCO) were prepd. by alkylating II with a 2-4 fold excess of 2-bromo deriv. of MeCH2R in DMF, drying the reaction mixt. and iodinating with a soln. of (PhO)3P+Me I- in DMF.

L61 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2
ACCESSION NUMBER: 1982:563428 CAPLUS
DOCUMENT NUMBER: 97:163428
TITLE: Derivatives of deoxythionucleotides as monomers for synthesis of deoxypolynucleotides and process for their preparation
INVENTOR(S): **Kumarev, V. P.**; Bogachev, V. S.; **Baranova, L. V.**
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (19), 101.
CODEN: URXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 929647	A1	19820523	SU 1979-2835533	19791101

GI



I

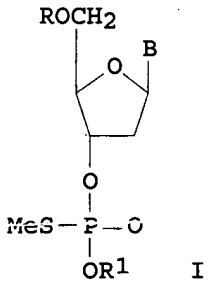
AB Nucleotides [R = residue of thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine; R1 = H, 4,4'-dimethoxytrityl (Q); R2 = P(O)(SMe)OR3; R3 = H, NCCH2CH2] were prepd. from I (same R; R1 = Q; R2 = H) by phosphorylation with 5-15 fold excess P(S)Cl3 in pyridine for 2-4 h at 0-5.degree.. Treating the reaction mixt. with ethylenecyanohydrin in pyridine 1-2 h at room temp gave a dicyanoethyl deriv. which was hydrolyzed with Et3N in alc. and the resulting monocyanoethyl deriv. was alkylated with MeI in DMF with subsequent treatment with toluenesulfonic acid and/or Et3N in alc.

L61 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 3
ACCESSION NUMBER: 1982:528013 CAPLUS
DOCUMENT NUMBER: 97:128013
TITLE: Polydeoxynucleotides
INVENTOR(S): **Kumarev, V. P.**; Bogachev, V. S.; **Baranova, L. V.**; Rivkin, M. I.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (17), 120. CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

SU 925964	A1	19820507	SU 1979-2835418	19791101

GI



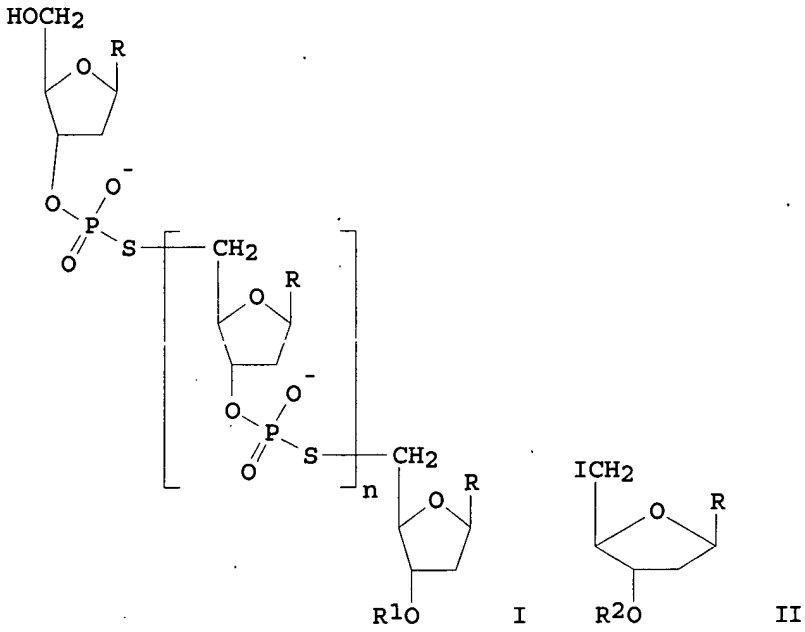
I

AB Polydeoxynucleotides were prepd. by condensation of I (B = thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine residues; R = H, dimethoxytrityl; R1 = H, CH2CH2CN) in pyridine in the presence of arylsulfonyltetrazolide followed by treatment with acid or Et3N and extn. with CHCl3 or a mixt. of CHCl3-MeOH (7:3) and subsequent removal of the protecting methylthio group with NH3 at 50-60.degree. over 4-6 h.

L61 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 4
ACCESSION NUMBER: 1982:456195 CAPLUS
DOCUMENT NUMBER: 97:56195
TITLE: Oligodeoxythiothymidylates
INVENTOR(S): **Kumarev, V. P.**; Bogachev, V. S.; **Baranova, L. V.**; Kobzev, V. F.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (9), 89. CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 910651	A1	19820307	SU 1976-2414492	19760930

GI

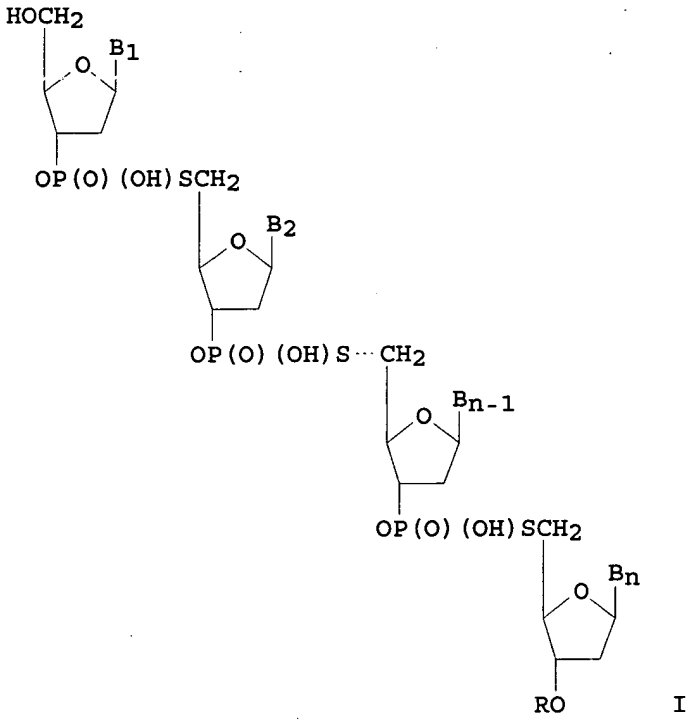


AB Oligodeoxythiothymidylates I (R = thymine residue; R1 = H, thiophosphate or S-2-cyanoethyl thiophosphate residue; n = 0-3) were prepd. by treating Li salts of thymidine- or oligothymidinyl-3'-phosphorothioate with II (R2 = H or Li salt of S-2-cyanoethyl phosphorothioate).

L61 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 5
ACCESSION NUMBER: 1982:558758 CAPLUS
DOCUMENT NUMBER: 97:158758
TITLE: Oligodeoxyribothionucleotides exhibiting template properties in RNA polymerase system from Escherichia coli
INVENTOR(S): **Kumarev, V. P.**; Bogachev, V. S.; **Baranova, L. V.**; Kobzev, V. F.; Rivkin, M. I.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (3), 102. CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 899571	A1	19820123	SU 1979-2798760	19790713

GI



I

AB Oligodeoxyribothionucleotide I (R = H, thiophosphate residue, .beta.-cyano [or N,N-diphenylcarbamoyl]ethylphosphorothioate; B = thymine, cytosine, adenine, guanine; n = 1, 2, 3, etc.) showed template properties in an Escherichia coli RNA polymerase system.

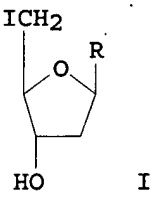
L61 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1982:439314 CAPLUS
DOCUMENT NUMBER: 97:39314
TITLE: Derivatives of purine deoxynucleotides as end monomers for synthesis of polythiodeoxynucleotides and process for preparing them
INVENTOR(S): **Kumarev, V. P.**; Bogachev, V. S.;

	Kobzev, V. F.; **Baranova, L. V.**
PATENT ASSIGNEE(S):	Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE:	U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (9), 89. CODEN: URXXAF
DOCUMENT TYPE:	Patent
LANGUAGE:	Russian
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 910652	A1	19820307	SU 1976-2405855	19760820

GI



I

AB Deoxynucleosides I (R = N6-benzoyladenine or N2-isobutyrylguanine residue), for the title use, were prepd. by treating N6-benzoyl-2'-deoxyadenosine or N2-isobutyryl-2'-deoxyguanosine with MeP+(OPh)3I- in DMF.

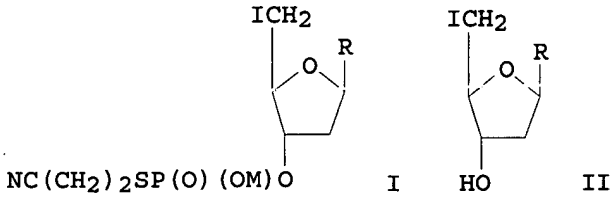
L61 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER:	1982:439313 CAPLUS
DOCUMENT NUMBER:	97:39313
TITLE:	Deoxythionucleotides as monomers for synthesis of polythiodeoxynucleotides and process for preparing the same
INVENTOR(S):	**Kumarev, V. P.**; Bogachev, V. S.; Kobzev, V. F.; **Baranova, L. V.**
PATENT ASSIGNEE(S):	Institute of Cytology and Genetics, Novosibirsk, USSR
SOURCE:	U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (9), 89. CODEN: URXXAF
DOCUMENT TYPE:	Patent
LANGUAGE:	Russian

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

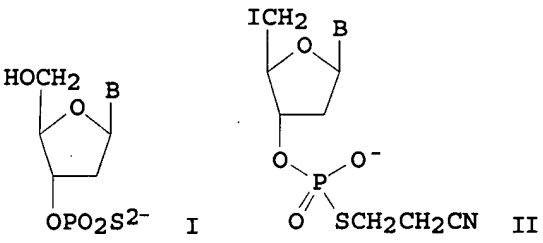
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 910650	A1	19820307	SU 1976-2405856	19760820

GI



AB Thionucleotides I (R = thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine residue; M = NH4, Na, Li) are monomers for prepg. polythiodeoxynucleotides. I were prepd. by condensing II with 2-5 parts excess S-2-carbamoylethyl thiophosphate in a mixt. of PO(NMe2)3 (80-90%) and pyridine (10-20%) in the presence of 6-15 parts excess dicyclohexylcarbodiimide.

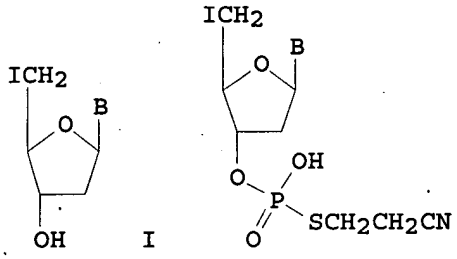
L61 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:107664 CAPLUS
DOCUMENT NUMBER: 98:107664
TITLE: Phosphorothioate analogs of nucleic acids. II. Synthesis and properties of 5'-S-phosphorothioate analogs of oligodeoxyribonucleotides
AUTHOR(S): **Kumarev, V. P.**; Bogachev, V. S.; Kobzev, V. F.; **Baranova, L. V.**; Rivkin, M. I.; Rybakov, V. N.
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR
SOURCE: Bioorg. Khim. (1982), 8(11), 1525-34
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI



I II

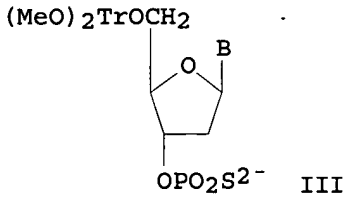
AB A general method is proposed for the synthesis of 5'-S-phosphorothioate analogs of oligodeoxynucleotides based on the reaction between phosphorothioates I (B = thymine, 4-anisoylcytosine, 6-benzoyladenine, 2-isobutyrylguanine) and iodonucleoside cyanoethyl phosphorothioates II or 2',5'-dideoxy-5'-iodonucleosides in DMF and DMF-water mixts. The first-order rate consts. of this reaction have been studied as a function of counter-cations and length of ps-component. They decrease in the series Li+ > Na+ > K+ > B4N+ and Tps > (Tps)2 > (Tps)3. The efficiency of the method was illustrated by the synthesis of various defined sequences related to the globin mRNA and synthetic angiotensin I gene in good yields. Modification of the usual sequence anal. method for synthesized analogs was developed.

L61 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1983:107663 CAPLUS
DOCUMENT NUMBER: 98:107663
TITLE: Phosphorothioate analogs of nucleic acids. I. Synthesis and properties of monomers for the synthesis of 5'-S-phosphorothioate analogs of oligodeoxyribonucleotides
AUTHOR(S): **Kumarev, V. P.**; Bogachev, V. S.; Kobzev, V. F.; **Baranova, L. V.**
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR
SOURCE: Bioorg. Khim. (1982), 8(11), 1516-24
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian
GI



I

II



III

AB 5'-Iodo- and 3'-phosphorothioate derivs. of deoxyribonucleosides used in the synthesis of 5'-S-phosphorothioate analogs of oligodeoxyribonucleotides with unnatural P-S-C (5') bonds were prepd. Thus, nucleosides I (B = thymine, 4-anisoylcytosine, 6-benzoyladenine, 2-isobutyrylguanine moiety) were prepd. from the corresponding N-protected deoxynucleosides and [Me(PhO)3P]+ I- in DMF. Thiophoshorylation of I by S-.beta.-carbamoylethylphosphorothioate in the presence of DCC gave II. III (Tr = trityl) were prepd. from N-protected 5'-O-dimethoxytritylnucleosides and PSCl3. The reactivity of 2',5'-dideoxy-5'-iodothymidine in substitution reactions were shown to be 2 times greater than the corresponding tosyl or mesyl derivs.

L61 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1980:602674 CAPLUS
DOCUMENT NUMBER: 93:202674
TITLE: Preparation of the physiologically active hormone Angiotensin I as a product of synthetic gene expression in Escherichia coli cells
AUTHOR(S): **Kumarev, V. P.**; Rivkin, M. I.; Bogachev, V. S.; **Baranova, L. V.**; Merkulov, V. M.; Rybakov, V. N.; Solenov, E. I.; Fedorov, V. I.
CORPORATE SOURCE: Inst. Tsitol. Genet., Novosibirsk, USSR
SOURCE: Dokl. Akad. Nauk SSSR (1980), 252(6), 1506-10, 1504B [Biochem.]
CODEN: DANKAS; ISSN: 0002-3264
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB A 48-base pair double-stranded deoxyribonucleotide including the codons for angiotensin I [484-42-4] was prepd. by prepg. short blocks by the triester method and joining them with phage T4 DNA ligase. Blocks contg. recognition sites for restriction endonuclease EcoRI were included at the ends of the nucleotide. Treatment of the nucleotide and of a .beta.-galactosidase gene-contg. plasmid pBR322 deriv. with EcoRI permitted insertion of

the nucleotide in the plasmid. Transformation of E. coli with the resulting plasmid and growth of transformants with the galactosidase inducer isopropylthiogalactoside gave clones whose lysates contained immunoreactive angiotensin I. One clone gave 300 pg angiotensin/108 cells. When the synthetic nucleotide was inserted in the EcoRI site of a phage vector and E. coli hosts were infected with the phage, angiotensin yields .ltoreq.10 ng/108 cells were obsd. in lysates of log-phase cells. The bacterial product had vasopressin activity in rats.

L61 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1980:491726 CAPLUS
DOCUMENT NUMBER: 93:91726
TITLE: Molecular cloning of synthetic angiotensin 1 gene in Escherichia coli. A route to physiologically active hormone
AUTHOR(S): **Kumarev, V. P.**; Rivkin, M. I.; Bogachev, V. S.; **Baranova, L. V.**; Merkulov, V. M.; Rybakov, V. N.
CORPORATE SOURCE: Siberian Dep., Inst. Cytol. Genet., Novosibirsk, 90, USSR
SOURCE: FEBS Lett. (1980), 114(2), 273-7
CODEN: FEBLAL; ISSN: 0014-5793
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A bihelical polynucleotide contg. the coding sequence for angiotensin I was produced by joining a no. of synthetically prepd. oligonucleotides using polynucleotide kinase and phage T4 DNA ligase. The bihelical polynucleotide was then flanked by a linker oligonucleotide, contg. a restriction endonuclease EcoRI-sensitive site, using DNA ligase. This synthetic gene was introduced into plasmid pMR1 (recombinant between pBR322 and phage .lambda. plac5) in the .beta.-galactosidase gene by hydrolysis with EcoRI, subsequent alk. phosphatase digestion, and religation with DNA ligase. After transformation of Escherichia coli BMH71-18, a no. of angiotensin I-producing clones were obtained, one of which produced .apprx.300 pg/108 cells as detd. by radioimmunoassay. Procedures are also given for introducing the gene into phage .lambda.plac 5-1, whereby upon introduction into host cells the gene is expressed .apprx.10-fold greater than in cells contg. the hybrid plasmid. The angiotensin I so produced had strong vasopressor effects.

FILE 'HOME' ENTERED AT 15:40:39 ON 31 JUL 2001